

Inside Dope

By GEORGE
F. TAUBENECK



Learn to live and laugh —
thus delay your epitaph

Story of the Week
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What Shall We
Celebrate Today?

Story of the Week

Three farmers met at the Co-op to trade their wheat. While awaiting their "turns" at the scales they passed around a jug of corn-squeezins.

Longer they waited, the more they swigged.

"I'm agonna buy wonno them there freezers," boasted lit-up Jim.

"That's nuthin," topped Tim. "Outta my money I'll buy a warshin masheen and a tellyvzion."

Poor old Bim, the third farmer, wasn't bragging.

"Hand me that jug again, boys," he faltered. "I ain't outta debt yet."

Good Thought

Martin and Lewis are going to work together, apparently not because they are too fond of each other, but because it's good business. Couldn't the East and West be as smart as Martin and Lewis?—*Detroit News*.

Hot Weather Stuff

Nearly everybody can tell you about a dog smart enough to ring a doorbell. But we've heard of one so polite he does so only when he forgets his key!

"Please tell the jury why you shot your husband with a bow and arrow."

"I didn't want to awaken the children."

"I'm bringing Mr. Hummock home for dinner tonight," announced Salesman Sam. "You met him at the Cleveland convention, so please greet him by name."

"Hummock? Can't recall him," wailed wife. "And you know I'm poor on names."

"Now, dear, it's all a matter of association. Mr. Hummock has a big tummy. Just remember 'stomach' and you'll think of Hummock. They rhyme."

Several hours later Salesman Sam ushered client Hummock into his domicile.

"So grand to see you again," twittered wife, "Mr. Kelly."

Stooling himself at an ice cream parlor, Joe Joakes demanded the list of flavors.

"We got," frog-voiced the

(Concluded on Page 6, Col. 1)

Food Plans To Get Airing at NFFLI Meeting

ELIZABETHTOWN, Pa.—In an atmosphere of the "Old West," food plan, frozen food center, and locker plant operators will "prospect for profits" at the annual convention of the National Frozen Food Locker Institute Sept. 18-21 at the Netherlands Plaza hotel in Cincinnati.

They will hunt for idea nuggets in a series of informal bull sessions, where everyone attending will have a chance to participate.

In addition, they will be able to search through two floors of product exhibits in the "Trading Post" where 58 manufacturers will show their wares, including 18 producers of refrigerated equipment.

Delighted with the success of its first "no speeches" convention last year, NFFLI has scheduled only two talks this year.

Owen Lyons, advertising manager of Marathon Corp. will deliver the keynote address on "Prospecting for Profits" at the first general session Monday morning. Dr. Kenneth MacFarland of General Motors Corp. will close the convention with an address on Wednesday morning.

A series of five bull sessions (Concluded on Page 4, Col. 4)

Olsen Sale to Westinghouse Due Sept. 7

PITTSBURGH—The Westinghouse Electric Corp. has offered to purchase the assets of the C. A. Olsen Mfg. Co., Elyria, Ohio, producer of residential furnaces, it was announced recently.

The purchase has been approved by the Westinghouse board of directors, the directors

YORK, Pa.—C. A. Olsen Mfg. Co. has assured York Corp. that it will continue to manufacture combination heating-cooling units for York as long as York desires to purchase them, Stewart E. Lauer, York president, announced recently.

"Olsen also advised us that they plan to continue to purchase cooling circuits from us and we have agreed that we will furnish these circuits," Lauer declared.

He added that Westinghouse approved these arrangements.

of the Olsen company, and is now subject to the approval of Olsen stockholders at a special meeting to be held Sept. 7.

The nearly 2,000 shareholders (Concluded on Page 17, Col. 1)

Accuse Florida Dairies of Aid To Retailers

MIAMI, Fla.—Testimony that local dairies have been supplying their outlets with free refrigeration equipment and services were brought before the Florida Milk Commission here recently by local refrigeration men.

James Knight, attorney for the commission, informed the News that "hearings which we had to determine whether or not milk companies are supplying their accounts with free refrigeration services are inconclusive at this time."

"The members of the local refrigeration industry have agreed to pursue this subject and bring it to my attention."

Knight pointed out that the commission has jurisdiction only (Concluded on Page 2, Col. 5)

Whirlpool-Seeger Plans New Refrigerators

CHICAGO—One of the first moves expected to be made by the Whirlpool-Seeger Corp. when it comes into being shortly after Sept. 12 will be to design and manufacture a new line of refrigerators, it was reported here recently.

However, the line will not be marketed until fall of 1956, it was said.

Whirlpool officials indicated that the new firm will not market any products under the new "RCA-Whirlpool" label before Jan. 1, 1956.

The new corporation will be formed through a merger of Whirlpool Corp., Seeger Refrigerator Co., and the stove and air conditioning division of Radio Corp. of America. Whirlpool and Seeger stockholders are scheduled to vote on the merger (Concluded on Page 4, Col. 1)

Used Refrigerators Help Dealer Battle Discount Houses

CAMBRIDGE, Mass. — Although used refrigerators account for only one third of his sales volume, they provide two thirds of his profit, Harry Sussman, appliance dealer here, told the *Wall St. Journal* recently.

Buffeted by discount houses, Sussman turned to selling reconditioned refrigerators, the business paper reported. He not only sells them locally but is moving into the export field. He recently shipped 10 reconditioned refrigerators to a dealer in Belgium at \$75 each.

"They cost me little more than the \$10 expense of crating them," Sussman told the *Journal*. "If it weren't for my used refrigerator sales, I would not stay in the appliance business."

Vital Copper, Brass Parts Curtailed by Flood Damage

DETROIT—Apart from the tragedy that struck individual dealers and distributors in the stricken area, the air conditioning and refrigeration industry came through the horrendous floods in the Connecticut and Delaware river valleys in pretty good shape.

Most seriously damaged are the copper and brass mills in the Connecticut and Naugatuck valleys. Their lost production will affect the parts and supplies section of the industry for months to come.

American Brass Co. telegraphed the News that its plants in the Naugatuck valley, except the French Small Tube and

American Metal Hose Divs., were badly hit. The company said that it is impossible to estimate the damage or restoration time yet.

Chase Brass & Copper Co. at Waterbury, Conn., shipped 8 ft. of water damaging nearly every piece of machinery in its mill there. Company officials said that the mill would be closed for at least four weeks.

The company's New York offices stated that it has already started to allocate its warehouse stocks to customers or they would be gone in no time.

The Copper & Brass Warehouse Association stated that the floods will cost brass mills in Connecticut a large part of their September production.

Harry Barchoff, association president, stated: "Estimates on production losses run from 20 (Concluded on Page 20, Col. 1)

Kelvinator July Second Best Mo. In 4 Years

DETROIT—Kelvinator household appliance sales during July reached the second highest monthly total in four years, and marked the second largest July sales total in the company's history, according to Homer L. Travis, general sales manager.

Travis said July, 1955, billings to dealers were 17.5% ahead of the same month a year ago, while billings for the 10 months of the fiscal year to date were 22.5% ahead of the same period a year ago.

The month's figures have been exceeded only once since the Korean War buying surge, (Concluded on Page 4, Col. 2)

O. A. Sutton Sees '56 Room Unit Prices Up

WICHITA, Kan.—Officials of the O. A. Sutton Corp., manufacturer of "Vornado" air conditioners, said recently that "there are many factors that indicate prices for our 1956 line of window air conditioners may be higher."

They cited a substantial rise in costs of raw materials such as copper, aluminum, and steel as being major contributing factors in the anticipated price increase.

One official said that "while no decision has been reached, we have been holding a series of planning conferences during the past few weeks on the matter and have not been able to find a way yet that will allow us to hold the price line."

Capital Code Awaits Action After Hearings

WASHINGTON, D. C.—Testimony for and against the District of Columbia's proposed licensing system for the refrigeration and air conditioning industry was heard recently by city officials.

No action was taken on the measure as newly appointed assistant engineer commissioner Lt. Col. Thomas B. Hunter took the matter under advisement.

Ringgold Hart, attorney for the Merchants & Manufacturers Association, Air Conditioning Div., suggested that if licensing is necessary—and he didn't think it was—it should be limited to contractors and (Concluded on Page 17, Col. 4)

BEHIND PAGE ONE . . .

Heat Pump In Cold Climate

Wisconsin Utility Tests It In Own Bldg. 7

Truck and Trailer Refrigeration

Manufacturers To Study Refrigeration Standards, Insulation, and Body Characteristics. 8

Farm Egg Coolers

Georgia Egg Production Rises As Farmers Install Them. 9

The Las Vegas Story (2)

Ingenious Installations Save Space on Air Conditioning and Refrigeration Jobs. 11

Servicing Auto Air Conditioners. 19

WHY WAIT HOURS?

When you have "freeze-ups" (or other moisture troubles) why not stop them right away? Why wait for the moisture to be picked up?

Thawzone goes right to the moisture. No delay. It travels through the refrigerating unit right away. You get action quickly, wherever the moisture may be.

Remember, the drier that destroys moisture is Thawzone. The water can't come back. And no clogging with oil or pressure drop with Thawzone. Costs only about 8¢ per lb. of refrigerant treated.

For all "Freon" or methyl units. See your wholesaler or write Highside Chemicals Co., a unit of Stewart Industries, Inc., 18 Colfax Ave., Clifton, N. J.



THAWZONE®

THE LIQUID DRIER

NFFD Told Mass Use of Irradiated Foods at Least 5-10 Years Away

NEW YORK CITY — Mass use of radiation-sterilized foods are from five to 10 years in the future, a group of experts in the field advised the National Frozen Food Distributors here recently.

"Watch research development, but don't worry," Dr. Carl Fellers of the University of Massachusetts advised them. "Present canning and freezing equipment and its replacements will wear out before you need to think of radiation as a new tool in your business."

The distributors had asked a number of radiation scientists for an opinion on when and if radiation will replace conventional canning and freezing processes. The scientists indicated that this is not likely to happen in the foreseeable future.

Dr. W. R. Roy of Minute Maid and Dr. W. E. Baier of Sunkist Growers indicated that the development of serious off-flavors has caused them to discontinue radiation tests on citrus juices.

Dr. William B. Bradley of the American Institute of Baking pointed out that staling, which causes spoilage in baked products, is not influenced by radiation sterilization.

He said, "Freezing and holding in frozen storage is the only thing found up to the present time that will inhibit staling of bread, cake, yeast-raised sweet goods, and doughnuts."

Dr. Roger Lueck of the American Can Co. noted that radiation has even more unfavorable effects on color and flavor of some foods than canning.

Florida Dairies--

(Concluded from Page 1)

in matters dealing with milk. He noted that while the law prohibits dairies from servicing milk coolers, it permits them to service ice cream, meat, and non-milk equipment.

The commission was conducting a study to determine if the present price of milk was justified. The dairies contend it is because of high production costs. The refrigeration men contend that part of this cost derives from maintaining refrigeration equipment for retail accounts.

5 Refrigeration Men Subpoenaed

James D. Nall, secretary of the local chapter of the Refrigeration Service Engineers Society, was one of five refrigeration men subpoenaed by the commission to testify.

"Each one of us testified as to what we knew," Nall declared following the hearing. "Three of us could only recall hearsay and very few facts that we could prove. The other two recalled job after job in which they had worked on all types of equipment and were paid by the dairies."

Board Only Controls Milk

"The administrator of the milk board then stated that the milk board had no control over the ice cream industry. He said our testimony must concern milk only before they could act on it. He also stated that ice cream is not a by-product of milk."

"He then stated that both he and Knight would like to hear more testimony at a later date if we could assemble such with proof. He stated that our testimony could be general and in all categories, such as ice cream cabinets, walk-in boxes, or others. He said the milk board would separate that in which it was interested."

Dairies Are Trapped

"I then made the statement," Nall continued, "that we as a society were not condemning the dairies for this practice inasmuch as it is a vicious circle that has ensnared them."

"I explained how one dairy would offer free service or equipment to a prospective customer in order to get his business. Then the dairy that already had the business would be forced to match or better the offer in order to hold it."

"I also explained that in the past nine years or so I have had the occasion to note this problem many times over. If the dairies could be assured that this practice could be prohibited to all dairies, they would be very happy about it."

"M. D. Comfort (another refrigeration man) told the attorney that he didn't think that the burden of proof lies with the service engineers. It is his belief that after the matter is brought to their attention, the milk board should either prove or disprove the charge."

Other refrigeration men who testified were William Underwood, G. C. Vaught, and Frank Leach. Leach is president of the Miami chapter of RSES.

KRAMER

COIL and BAFFLE Combinations in all STOCK SIZES



for IMMEDIATE DELIVERY!

TRIPLE TROUGH BAFFLES

The addition of a third trough—a unique Kramer feature—permits the use of a deeper primary trough and reduces the dripping to a minimum, making the baffle practically drip-proof.

LONG LIFE

Made of non-corrosive metal to last the life of the cooler.

EASY INSTALLATION

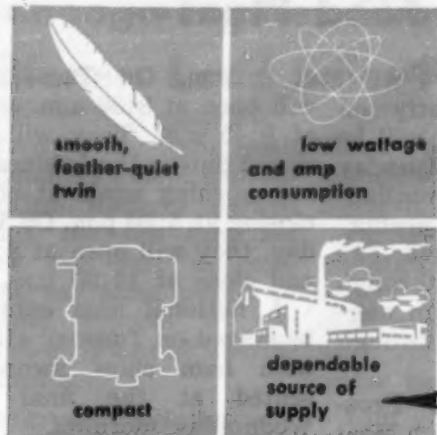
Baffles shipped completely assembled—takes minimum installation time.

TEMPERATURE LEVEL

For average refrigerator temperatures, 35°F and higher, normal air defrosting can be used. For temperatures between 35° and 32°F, a time clock must be used to insure positive defrost.

WRITE FOR BULLETIN CB-276-A

KRAMER TRENTON CO. • Trenton 5, N.J.



**BOX SCORE for
TWIN-CYLINDER TITAN
of MOTOR-COMPRESSORS**

Copeland COPELAWELD

Here's the welded hermetic that is leading its league in positive, year-round performance. In thousands of coolers, refrigerators and air conditioners, COPELAWELD motor-compressors are showing championship form . . . delivering high-capacity cooling with low power consumption. Everywhere, users report precision-built COPELAWELD handles peak loads under toughest conditions with quiet surety.

Test this seasoned Copeland performer under your own conditions. We'll be glad to supply a sample for such tests. You'll appreciate the unusually high capacity, economy of operation and cool-running smoothness. For original equipment or replacement, specify COPELAWELD . . . the dependable Copeland welded hermetic.



$\frac{1}{3}$ H. P. through $1\frac{1}{2}$ H. P.

REFRIGERATION UNITS
(OPEN-TYPE AND COPELAMETIC)
WATER COOLERS

Copeland
DEPENDABLE *Electric* REFRIGERATION

COPELAND REFRIGERATION CORPORATION
SIDNEY, OHIO

Whirlpool-Seeger-- Kelvinator Sales--

(Concluded from Page 1, Col. 3)
proposal Sept. 12.

Elisha Gray, president of Whirlpool Corp. and slated to be president of the new corporation, indicated that one of the reasons for the merger is to permit Whirlpool to pre-sell customers through television advertising, something it has not been able to do in the past.

Whirlpool has already announced that will share sponsorship of the Martha Raye and Milton Berle shows on NBC-TV.

Gray also indicated that the merger will help quicken engineering development, increase selling of matched appliances to home builders, and give the company wider distribution advantages.

It is reported that the Kenyon and Eckhardt agency will handle advertising for Whirlpool-Seeger.

(Concluded from Page 1, Col. 4)

Travis said, while the only July in Kelvinator history to exceed the 1955 billing figures was July of 1950, at the height of the Korean War buyer's market.

Although refrigerator products led in total volume, home laundry equipment showed the greatest relative gain, running 53% ahead of the first 10 months of fiscal 1954. Refrigerators, Kelvinator's traditional volume leader, were up 28% for the period.

Dallas Firm Expands

DALLAS — Joiner-Meade-Capers, Inc., representative for Dryer-Hanson, Inc. in the Dallas area, will extend its coverage to the Texas Panhandle and five counties in New Mexico.

Key officials in the organization are John W. Joiner, Roscoe Capers, and Kenneth Q. Meade.

Easy OKays Merger NFFLI To Air Food Plans--**With Union Chemical**

(Concluded from Page 1, Col. 2)

SYRACUSE, N. Y.—A merger agreement between Easy Washing Machine Corp. and Union Chemical & Materials Corp. of Pittsburgh has been approved by stockholders of both firms.

Final approval of the agreement was expected at separate meetings of the boards of directors of the companies on Aug. 31.

The agreement provides for the formation of a Syracuse division that would continue the manufacture of home laundry products and defense items. All Easy home laundry equipment would be made for Murray Corp. of America, Detroit, on a contract basis and would be marketed by Murray under the Easy name.

Murray would purchase and take title to all assets of Easy.

will be held concurrently on Monday afternoon. They will be repeated again on Tuesday afternoon. At these, conventioners will "prospector for profits" (1) through the food plan, (2) through processing, (3) through management, (4) through merchandising, or (5) through smoking and curing.

A lone bull session on "Prospecting for Profits through Meat Cutting" will be staged Tuesday morning and repeated on Wednesday morning.

A business session and election of a new board of directors is scheduled for Tuesday morning. A board of directors meeting will be held Sunday noon.

The exhibits will first open at noon Sunday, remaining open until 5:30 p.m. On Monday, they will open at 8:30 a.m. and close

at 6 p.m. On Tuesday, they will open at 8:30 a.m. and close at 9:45 a.m. They will remain closed during the business meeting, opening again at noon and closing at 5:30 p.m. On Wednesday, they will open at 8:30 a.m. and close at 12:30 p.m.

A national ham exhibit will be staged on Tuesday afternoon, with ham show awards presented at the final session Wednesday morning.

Entertainment features scheduled for the convention include an Ohio River boat trip Sunday evening, a "Cinerama Holiday" theater party Monday evening, a buffet style "Chuck Wagon Barbeque" and entertainment Tuesday evening, and attendance at a Cincinnati-Milwaukee baseball game Wednesday afternoon.

Refrigeration equipment manufacturers scheduled to exhibit at the convention include:

Amana Refrigeration, Inc.
Ben-Hur Mfg. Co.
Deepfreeze Div., Motor Products Corp.
General Electric Co.
Gibson Refrigerator Co.
Gilbert Refrigeration Co.
International Harvester Co.
Jordon Sales Co.
Marquette Appliances, Inc.
Norge Div., Borg-Warner Corp.
Orley Corp.
Philco Corp.
C. Schmidt Co.
Sub-Zero Freezer Co., Inc.
Tri-State Electric Co.
United Refrigerator Co.
Westinghouse Electric Corp.
Wilson Refrigeration, Inc.

Registration fee for the convention is \$5 for each plant plus \$1 for each individual attending.

Airflo Granted Charter

HAMMOND, La.—Charter of incorporation has been granted Airflo Refrigeration & Air Conditioning Service, Inc., retail and wholesale air conditioning and refrigeration equipment, listing capital stock of 300 shares no par value.

Whenever QUALITY plays a BIG PART

-the
TUBULAR PARTS
are by
H & H

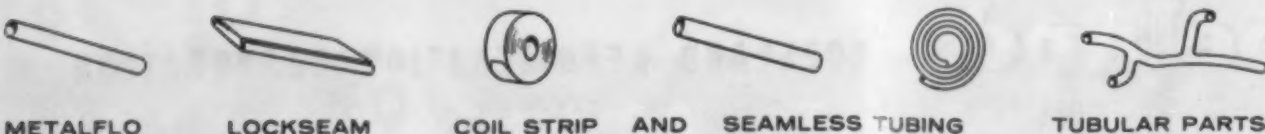
A home air conditioner, like any other precision product, must have parts of truly good quality if the cost and speed of assembly is to be controlled and maintenance-free performance assured after the sale. That's why manufacturers who refuse to take chances insist on precision fabricated parts by H & H. They know from experience that close tolerances, grain size and temper are always strictly adhered to according to customer specifications. Tubing used for straight lengths and fabricated parts is available in a range of sizes from 1/2" O.D. through 1 1/2" O.D., in wall thicknesses of .065 and lighter. Furnished with capped, plugged or open ends according to customer specifications. H & H standard refrigeration coils are available in sizes from 1/8" O.D. to and including 3/8" O.D. This standard tubing is furnished in 50' coils, individually packed with either crimped or open ends according to customer requirements.

Our
25th
year

Expect the BEST brass and copper products from

H & H Tube
AND MANUFACTURING COMPANY

271 N. Forman Avenue, Detroit 17, Michigan • Offices from Coast to Coast



IF YOU'RE GUNNING
for
PROFITS
LOAD UP
with the
COLDIN
LINE...

"YOU CAN SELL
EVERY FOOD RETAILER"

COLDIN CABINET CO., Inc.
2800 Webster Ave., N. Y. 58, N. Y.

Chattanooga Figures Show Dryers, Conditioners Lead Sales Rise

CHATTANOOGA, Tenn.—All major appliances except conventional clothes washers showed sales gains for the first six months of this year as compared with the same period in 1954, dealer reports to the Electric Power Board of Chattanooga indicate.

Clothes dryers lead the way with a 97% gain over 1954. Air conditioner sales were up 54%, automatic clothes washers 52%, dishwashers 40%, freezers 29%, ironers 8%, ranges 7%, refrigerators 6%, and water heaters 1%. Conventional washer sales were down 17%.

For the month of June, clothes dryer sales were 195% ahead of June last year. Also far ahead were dishwashers up 140%, and ironers up 114%.

There was a 58% gain in automatic washer sales, 25% in freezers, and 1% in ranges.

On the other hand, room air conditioner sales dropped 6% under last June. Conventional clothes washer sales were down 8%, refrigerators 12%, and water heaters 17%.

Unit sales comparison for June and the six months were as follows:

Appliance	—June—		—6 Mos.—	
	1954	1955	1954	1955
Refrigerators	517	456	2,248	2,391
Freezers	114	143	490	634
Room Air Conditioners	1,139	1,078	1,496	2,317
Ranges	384	388	2,158	2,328
Water Heaters	352	294	1,908	1,934
Clothes Washers, Conventional	168	156	1,084	910
Clothes Washers, Automatic	200	317	1,246	1,898
Clothes Dryers	20	59	248	489
Dishwashers	5	12	37	52
Ironers	7	15	36	39

It's Not What You Give 'em, It's How You Tell 'em

MADISON, Wis.—There's a lot in the way you say it, admits M. R. Norton, general sales manager of the Wisconsin Power & Light Co.

"Forty dollars worth of food, free of extra cost" did not move freezers, he reports. A \$40 discount didn't do very much better.

But "200 packages of frozen food (\$40 worth), free of extra cost" is getting plenty of action, Norton reports.

Hosiery Firm Plans Cooling

FAYETTEVILLE, Ark.—Bear Brand Hosiery Co. is planning complete air conditioning of its factory here. Headquarters of the company is in Chicago.

Admiral First Half Civilian Sales Boom But Loss of Govt. Business Offsets Gain

CHICAGO—A 66% drop in government billing for the first six months of 1955 more than offset sharply higher civilian business for Admiral Corp.,

John B. Huarisa, executive vice president, reported recently. Huarisa noted that home freezer sales to dealers jumped 45% over the first six months of 1954, while range sales rose 32%, refrigerators 28%, radios 37%, and television sets 21%.

Although room air conditioner sales to date were higher than a year ago, Huarisa said, and inventories are non-existent, this business was not profitable because the sales surge started so late in the season.

Outlook for the second half of the year is brighter, he declared. But he pointed out that additional government restrictions on credit might put a brake on business.

Consolidated sales of Admiral Corp. in the first six months were \$94,018,923 as compared with \$105,210,498 last year, it was reported. Earnings before taxes and other reserves were \$2,845,413 as against \$6,054,633 in the first half of 1954. Net earnings this year were \$1,946,192 or 82 cents a share. Last year net earnings were \$2,588,850 or \$1.08 per share. Second-quarter sales were \$43,984,527 compared with \$49,223,936 in 1954. Earnings before taxes were \$1,039,711 as against \$2,178,482 last year. After taxes and other reserves, they were \$708,016 this year as compared with \$1,054,806 a year ago.

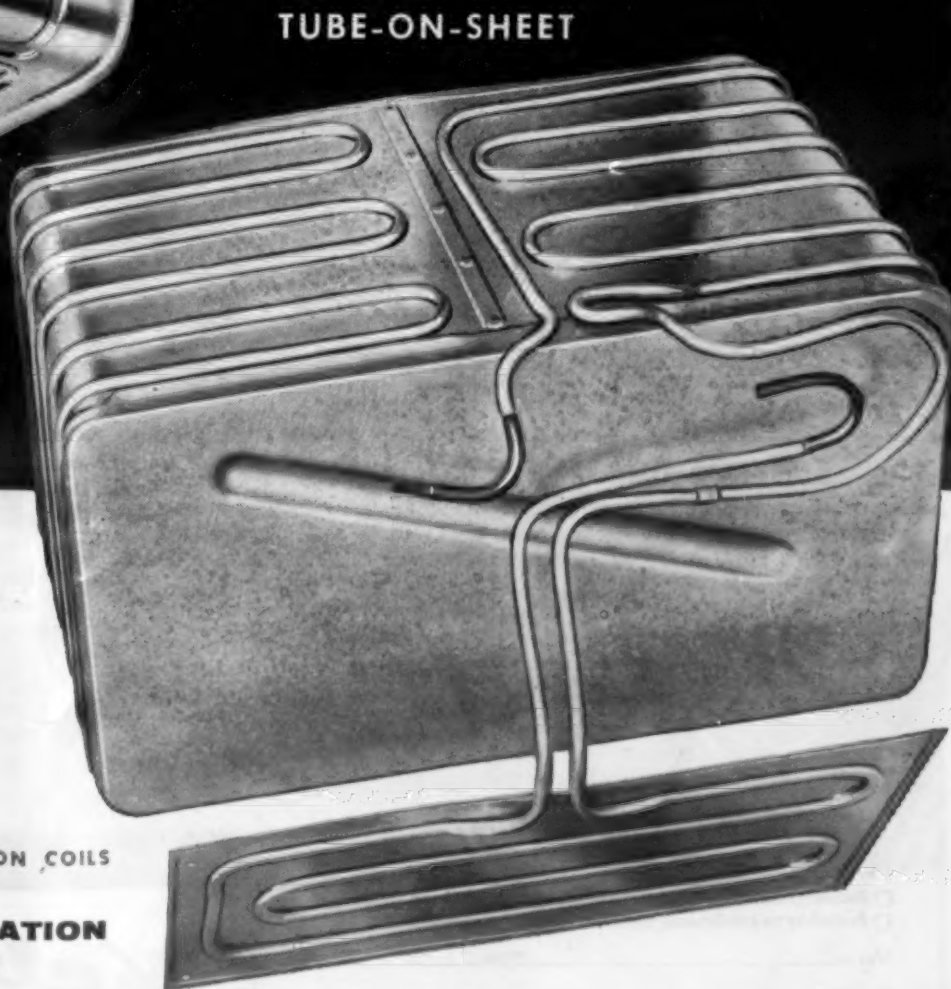
Dependable BOHN Evaporators

BONDED-SHEET or TUBE-ON-SHEET

... whichever type you prefer, it will pay you to talk with the one manufacturer who has had more experience than any other in the aluminum evaporator field.



BONDED-SHEET



TUBE-ON-SHEET

Production quantities of both types... tube-on-sheet or bonded sheet... are being produced by Bohn for the country's leading refrigerator manufacturers. Bohn's years of experience in fabricating aluminum evaporators and other refrigeration products assures you a reliable source of supply, plus complete engineering service.

EVAPORATORS • FREEZER PLATES • TUBING • REFRIGERATION COILS

BOHN ALUMINUM AND BRASS CORPORATION

1400 LAFAYETTE BUILDING • DETROIT 26, MICHIGAN

Sales Offices: BOSTON • CHICAGO • CLEVELAND • DAYTON • DETROIT
INDIANAPOLIS • LOS ANGELES • MILWAUKEE • MINNEAPOLIS
MOLINE • NEW YORK • PHILADELPHIA • ROCHESTER • ST. LOUIS

For more information about products advertised on this page use Information Center, page 15.

Inside Dope

By GEORGE
F. TAUBENECK

(Concluded from Page 1, Col. 1)

waitress, "vanilla, chocklit, stromberry, pitch."

"Hey! You must have laryngitis."

"No, sir. Only vanilla, chocklit, stromberry, and pitch."

"What do I do for a living? I sell hair tonic."

"But you're baldheaded."

"So what? My brother sells brassieres."

"What do you do for fun?" probed a draft-board psychiatrist.

"Mostly I shoot pool and see movies."

"Never go out with girls?"

"Nope."

"Don't you want to?"

"Nope."

"Why don't you?"

"My wife won't let me, sir."

Gags of the Week

Not every unhappy woman has loved and lost. She may have got him.

What did Artist James MacNeill Whistler say when he found his mother sitting on the floor?

"Mom, you're off your rocker."

These trying times are the good old days that we'll be longing for a few years from now.—ORVILLE REED.

"Guess what?" gushed Marilyn.

"All right, what?" Peggy bit.

"Ran into your old friend Betty downtown. And she couldn't praise you enough."

"Claimed you looked prettier and younger than when she first met you several years ago."

"Gee, that's nice. How's Betty doing, anyway?"

"Just fine, since she got her Seeing-Eye Dog."

"How was the dance last night?"

"Reel reet. The lighting defects couldn't be beat."

Definitions of the Week

Auto: What we used to find more drivers than pedestrians under.

Plastic: Boy-in-love in the hands of his girlfriend.

What Shall We Celebrate Today?

That America is a land of countless opportunities nobody can deny. One of these is the opportunity to celebrate some

special day, week, or month (Sept. 19-25), and National Tie Week (Sept. 25-Oct. 1).

Booklet published by the U. S. Chamber of Commerce reveals just how staggering the possibilities in this field really are. This leaflet lists more than 400 business promotion events, legal holidays, and religious observances for 1955.

For instance, during August one could celebrate National Sandwich Month. If you began to weary of sandwiches you could switch to Cherry Pie Time, which continues through September.

With the expected arrival of somewhat more invigorating weather in September, we're going to get in to the spirit of things supporting National September Better Breakfast Month, Lessons In Truth Week, and National Soft Water Week (Sept. 12-18), Felt Hat Day (Sept. 15), National Dog Week (Sept. 18-24), Anthracite Week

If we have any strength left after all this, we'll lend a hand in October to Cranberry Festival Time, Fall Wallpaper Fair, Let's Go Hunting, and National Lighting Fixture Month. All these, plus others, are month-long events.

We doubt that we'll be able to do much more celebrating than that in October. So for those with more ambition, we list a few of the many other opportunities:

Save the Horse Week (Oct. 9-15), National Posture Week (Oct. 11-16), Pass the Laugh Week (Oct. 16-22), National Donut Week (Oct. 17-23), National Macaroni Week (Oct. 20-29), and Cleaner Air Week (Oct. 23-29).

We're going to knock off celebrating in November to rest up for Holiday Eggnog Time in December, another month-long event, happily. While we're resting, you may want to carry on by marking such events as National Authors' Day (Nov. 1), "Cat Week 1955" (Nov. 6-12), and National Cage Bird Week (Nov. 20-26).

Maybe you'd like to know some of the events that have already been celebrated this year (if you've been in the dark on this up to now). There've been some dandies, such as:

In January: Odorless Decoration Week, Large Size Week—Chain Drug Stores, National Potato Chip Week, and National Fur Care Week.

In February: Kraut and Frankfurter Week, National Pimiento Week, National Table Tennis Week, National Crime Prevention Week, National Sew and Save Week, and Pancake Day.

In March: One-Dish Meals with Cheese (all month long!), National Peanut Week, National Save Your Vision Week, Dried Fruit Weeks, National Laugh Week, and National Mother-In-Law Day.

In April: Honey for Breakfast Week, Let's Play Ball, Bike Safety Week, National Coin Week, and National Secretaries Week.

In May: Better Bedding Time, Fig Festival, Milk Festival, National Mirror Week, National Raisin Week, National Tax Freedom Holiday, Foot Health Week, Let's Go Fishing, Rural Life Sunday, Straw Hat Day, and National Pickle Week.

In one week in May, incidentally you could have observed Child Health Day, Lilac Sunday, May Day, Be Kind To Animals Week, National Baby Week, National Correct Posture Week, Good Will Week, National Hearing Week, National Home Demonstration Week, National Motel Week, American Camp Week, National Family Week, Lilac Week, Music Week, and National Hearth Baked Bread Week.

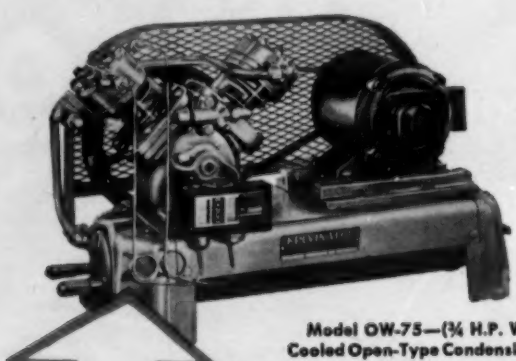
In June, there was American Fresh-Water Pearl Month, National Ragweed Control Month, Let's Play Golf, National Swim for Health Week, and National Bow Tie Week.

We note by the chamber's booklet that June 5 was International Shut-In's Day and that June 8 was Expectant Father's Day. However, we don't suppose there's any significance to this.

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Heat Pump Proves Practical In Cold Climate

LA CROSSE, Wis.—After a year's operation of a heat pump in its own new building here, the Dairyland Power Cooperative had determined that a heat pump is a practical means of providing year-round air conditioning in cold climate areas—if the installation of a summer cooling system has been decided upon.

Preliminary cost figures indicate that the heat pump can economically provide all the cooling capacity and nearly the entire heating capacity, requiring only supplementary heat for extremely cold days.

SYSTEM USES WELL WATER

The Dairyland installation, using 55° F. well water, is adequate for a winter design temperature of 0° F. Supplementary heating by steam from a boiler is provided for periods of extremely cold weather. Winter design temperature in this area is -24° F.

Equipment for the heat pump consists of two Trane reciprocating compressors each with water-cooled condenser and dry expansion type water chiller. Ventilation air for the offices is filtered and tempered by Trane "Climate Changers" prior to distribution through ducts.

"UniTrane" room conditioner units regulate the temperature in each office and permit individual temperature control without any effect on other parts of the system.

IN SEASON ALL UNITS GET CHILLED WATER

During the cooling season, all the office units are supplied with chilled water from the chilling units. They cool 146 gals. of water per minute from 55° F. to 45° F. The heat removed from the building is returned with the ground water back to the well.

The process is reversed dur-

ing the heating season and the circulating water is piped through the condensers where it absorbs heat from the hot "Freon" gas. The gas is condensed to a liquid, giving up enough heat to raise the water temperature to 105° F.

This water is then circulated

through the room units and returned to the condensers. Heat is obtained from well water which is passed through the water chiller, where it is cooled by the refrigerant from 55° F. to 45° F. This heat is transferred by the refrigerant to the condensers.

Although the actual change in water temperature is small, the total heat exchange is great enough to heat the office building because of the large volume of water involved.

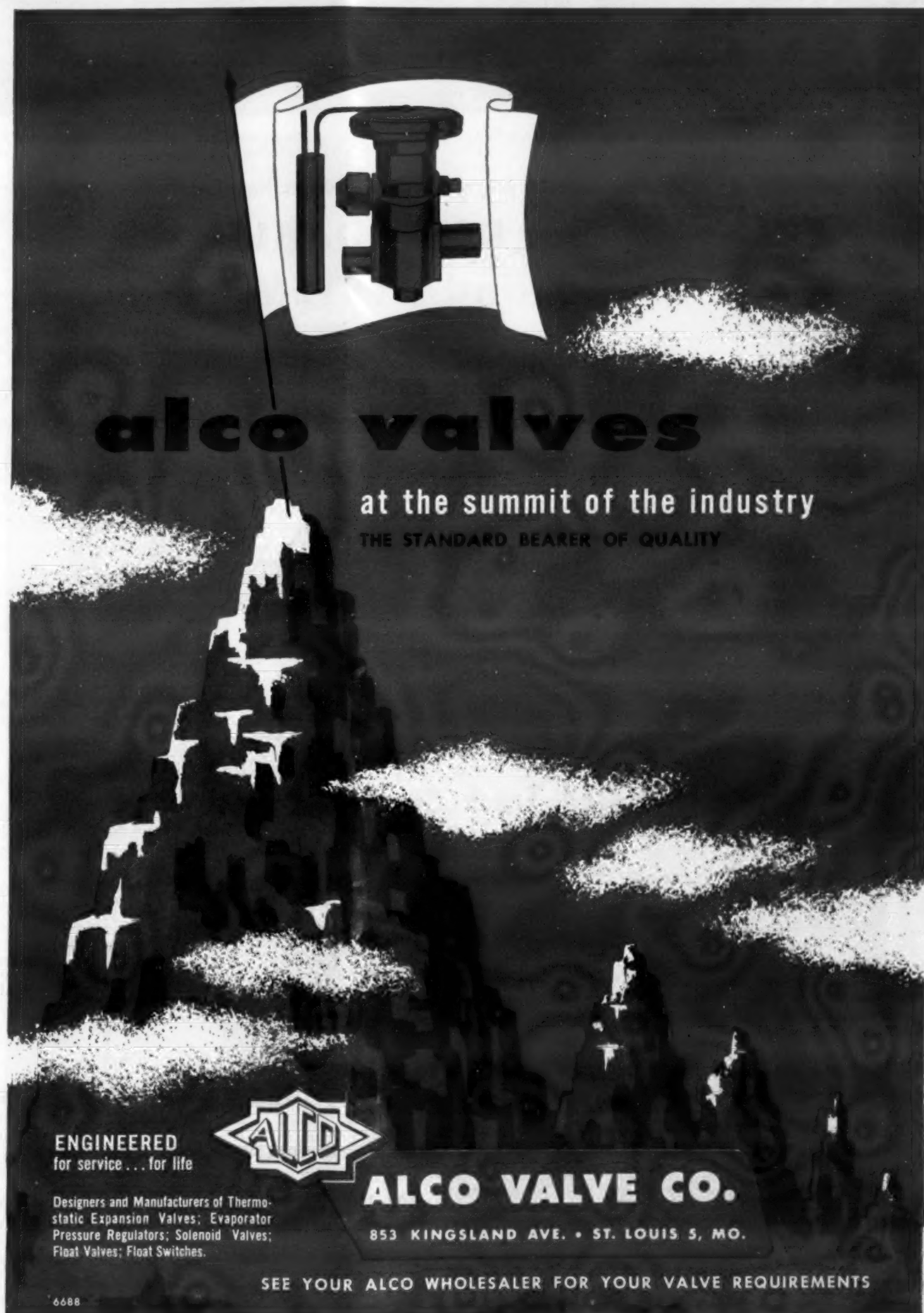
WANTED NEW POWER USES

Dairyland was motivated to install the heat pump, according to Trane, by an interest in finding new uses for power. It estimated that generating capacity would have to be doubled if only 25% of the homes using Dairy-

land power were to convert to a heat pump type of heating system.

Cost data indicates that installation and operation of this type of system is less costly than for a chiller for the cooling system and a heating plant to supply the entire heating load.

Preliminary figures show that a substantial saving over other fuels can be realized even in areas where electric rates are relatively high.



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N. Y. City May Get Air Conditioned Subway Trains

NEW YORK CITY—Air conditioned subways may be in the offing for New Yorkers.

Charles L. Patterson, chairman of the city Transit Authority, revealed recently that the authority is considering the idea and expects to have a test car in operation before the end of this month.

Sidney H. Bingham, general manager for the authority, said that he has already contacted three major air conditioning equipment manufacturers on the idea.

If the idea should prove practical, New York would have the first air conditioned subway trains in the country. The system now operates 7,000 cars.

Major difficulty, it is admitted, will be cost, as New York, like city transit lines everywhere, is faced with continually increasing financial difficulties.

Technical problems foreseen would be weight and placement of the equipment, short runs, continual opening and closing of doors, and large numbers of passengers crowded in each car.

Truck Mfrs. To Study Refrigeration System Standards, Insulation, Body Characteristics

DETROIT—A session of the Refrigeration Committee of the Truck-Trailer Manufacturers Association held here recently resulted in assignment to manufacturer-experts of three major subjects for special study and definitive reports at the association's annual convention to be held in January in the Edgewater Gulf hotel, Edgewater, Miss.

The subjects are:

1. Development of a recommended standard method of rating the various types of refrigerating systems used in truck-trailers—assigned to M. B. Green, vice president, U. S. Thermo Control Co., Minneapolis.

2. Truck-trailer insulation—assigned to G. P. Oldham, general sales manager, Gustin-Bacon Mfg. Co., Kansas City.

3. Refrigerator trailer performance and desirable characteristics—assigned to Harold Johnson, not himself a manufacturer but a transport and marketing specialist conducting tests for the U. S. Department of Agriculture, Washington, D. C.

The committee session was a part of the TTMA's seventh annual summer membership meeting in the Sheraton-Cadillac hotel. It was open to all members and drew attendance of many besides committeemen.

Presiding was L. H. Magor,

president, Aluminum Body Corp., Montebello, Calif. After hearing discussion, Magor by agreement with discussion participants directed studies and reports as noted above.

Cost Data Sought

Discussion brought out that one of the most frequent questions asked by operators of truck-trailers transporting perishables is this: What does a specific amount of refrigeration cost me?

Magor stressed that there should be a specific, reliable answer based on standards such as the Society of Automotive Engineers has developed in many other fields.

Transport Refrigeration

It was pointed out in round-table remarks that manufacturer tests may consistently show certain results with certain systems but that when the truck operator is performing in actual commercial transportation he may get an entirely different set of results, depending on type of operation, maintenance, skill of employees, length of service, and severity of demand.

A definite rating, stated in terms of output at the cargo point and the conditions pertaining to the rating, was seen as a cure to the difficulties of reliable figuring of refrigeration costs.

One point which cropped up in discussion was that the demand for "higher cube," that is, greater cubic capacity of pay-

load space, has created a problem of what to do about meeting height of loading dock. This becomes especially important in a refrigerator trailer which may have as much as 6 in. of insulation on the floor.

Cubage demand, it was explained further, also tends to encourage purchases of drop-frame trailers. The result is difficulty when backing up to a dock that may be 60 in. high, since the trailer floor and dock floor levels may vary considerably.

Demand Full-Width Rear Openings

One session participant noted, too, that demand for full-width rear door openings leaves no room for a bumper to cope with high docks. Some suggested that bumpers affixed to the docks rather than the vehicles may afford rear-end protection.

Agreement was general that with vehicle design moving ahead so fast there may have to be something done with the docks themselves.

Plastics that can be sprayed on to form a complete interior seal also engaged attention. Glass cloth in sheets, sprays, and combinations of these were said to do a good job. One vehicle maker complained, however, that some glass cloth is comparatively costly and that trailer buyers may decline to specify it.

How Much Return Duct Area?

An unanswered question was how much return duct area should be provided to assure adequate circulation of the cooled air in a "reefer." It appeared that progress is being made in duct development, especially as to floor duct-boards and aluminum floor racks.

One rack was described as weighing only 230 lbs. but testing out successfully with loads of as much as 30,000 lbs.

Adequate air circulation of cooled air around loads, including the area beneath the loads, long has been declared to be one of the keys to successful transportation of perishables requiring refrigeration.

Briefly discussed were the potentials of a "driven" axle on "reefer" trailers as a means of powering mechanical cooling systems. It was conceded that such a drive would be feasible only on long runs where continuous power would be derived, but reduction of mechanical troubles by such an arrangement was envisioned.

It was stated also that hydraulic powering of refrigerating systems remains a possibility.

Charles Hoffman, speaking for the Equipment and Maintenance Section of American Trucking Associations, Washington, reported that frozen foods interests and operators of refrigerator trailers have requested that a project be undertaken in their behalf.

If such a project is begun, he said, the trailer manufacturers doubtless will be called upon to contribute their knowledge. He was assured aid would be given.



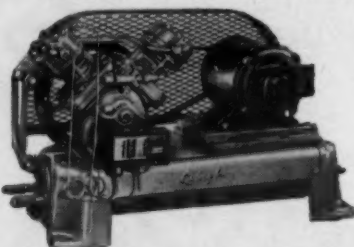
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Installation of Refrigerated Egg Coolers on Farms
Ups Georgia Commercial Egg Production, Quality

ATLANTA — Refrigerated farm egg coolers can take a large share of the credit for putting Georgia on the road to becoming an egg producing state rather than an egg importing state.

Bud S. Moss and L. T. Wansley of the Georgia Power Co., writing in the Edison Electric Institute's "Sales Planner" for July, told how a standard piece of commercial refrigeration equipment has transformed egg raising there from a "pocket-money" sideline for the farm wife to a thriving profitable industry.

Even in 1954, they said, there were fewer than 1,000 commercial egg producers in Georgia and the state was importing more than 50% of the eggs it consumed from midwestern states.

In one year, they declared, because of the introduction of the farm egg cooler, the number of commercial egg producers increased more than two thirds.

Up until five years ago, they wrote, most farms had flocks of less than 100 chickens. Flocks of 400 hens or more were scarce and flocks of more than 1,000 hens were extremely rare.

But in May, 1954, county agents reported a total of 3,062 commercial flocks of 400 hens or more.

Now Many Farms Have 2,000 Hens or More

"Many farms now have commercial flocks of 2,000 hens or more," Moss and Wansley declared. "Flocks of 5,000 to 10,000 are not uncommon, and there are at least four farms with more than 25,000 hens."

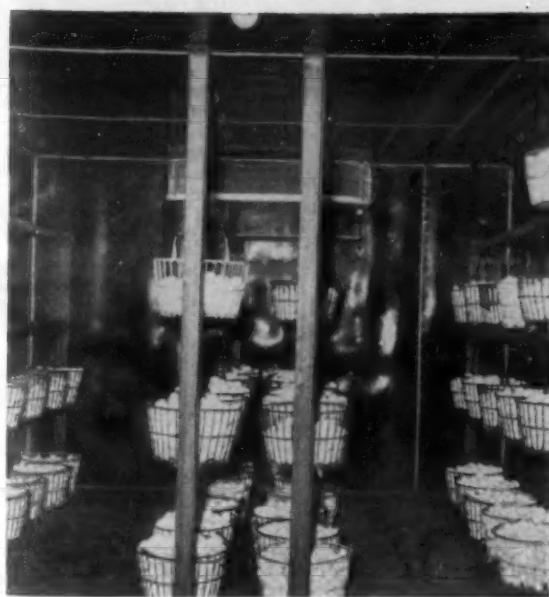
"At a farm near Toombsboro, plans are under way to have 100,000. Three houses have already been completed, each 40 by 520 ft. Another house 40 by 300 ft. and a large refrigerated room with space for grading and storing eggs are also under construction."

Impetus to this growth, they commented, was due to research on a farm egg cooler begun in 1948 by the Agricultural Engineering Dept. of the University of Georgia.

The cooler was designed so that the farmer could build it himself, except for the refrigeration unit, at a reasonable cost. It would maintain a tem-



EGG STORAGE room has a conveyor and loading chute at the end to load cases onto refrigerated trucks. Room is 12 ft. by 36 ft. by 8 ft. with 40° temperature maintained. It has two fin-type coils with 3-hp. compressor.



STEEL RACKS for cooling eggs in baskets are featured in this egg cooling room which is 12 ft. by 25 ft. by 7 ft. It has two blower coils, a 3-hp. compressor, and the room is maintained at 55° with relative humidity 80%.



FREEZING ROOM for broken eggs will hold 275 30-lb. cans. It is 8 ft. by 12 ft. by 6 ft. and has a 1½-hp. compressor which maintains zero degrees temperature.

perature of 50 to 55° F. and a relative humidity of 75 to 85%.

After the unit was designed and tested, the Georgia Power Co. cooperated with the university in publicizing the cooler and what it would do to state farmers.

"In the past year," they noted, "our rural engineers held 37 group meetings with an attendance of 1,793, showing colored slides and discussing the advantages of farm refrigeration in connection with commercial egg production."

Farm Refrigeration Is a Must

"As a result of these efforts, 119 farm egg coolers were installed. All commercial egg producers in the state are now aware that farm refrigeration is a must if quality eggs are to be marketed."

Moss and Wansley noted that these 119 installations represent 2,505,606 layers. To the utility it means an added 147 kilowatts of power and \$14,094 in new revenue.

They explained that much of the high quality of newly laid eggs can be lost unless the eggs are cooled to about 50 to 55° F. soon after laying. At higher temperatures there is a rapid loss in quality even for holding periods of about two or three days.

Higher Temperatures Bring Faster Loss

The higher the temperature, the faster the loss. The longer the eggs are held, the greater the loss in quality, both in marketing eggs and hatching eggs. By cooling eggs and keeping them cool, high quality can be maintained, they said.

"An insulated cabinet or room of on-the-farm construction, cooled by commercial refrigeration equipment, is an effective and practical method for cooling eggs," they wrote.

"Equipment is available locally and is serviceable and dependable. As compared to conventional refrigerated storages, farm coolers are not operated at such low temperatures. Accordingly, they are of lighter construction and use smaller equipment. Refrigerated coolers

are of greatest value in the warm months but have advantages for year-round use.

"Poultrymen are learning that it is necessary to gather the eggs several times a day in plastic baskets, cool them quickly, and hold them in a

cool room until marketed.

"Many of them are building insulated egg rooms with refrigerator units where they can maintain a temperature of 55 to 60° F. with the proper humidity conditions.

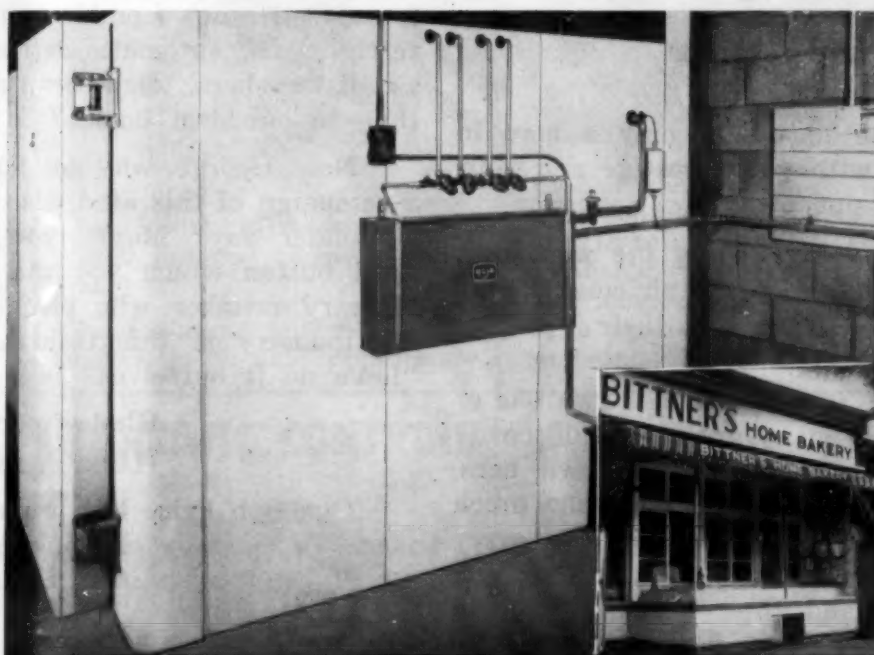
"Some are using home air

conditioner window units in the egg room, but they are not entirely satisfactory. The home unit is not designed to reduce the temperature low enough and it tends to pull moisture out of the air, which is not desirable."

The pair concluded that Georgia egg producers now know that they must have farm refrigeration to market quality eggs and that quality eggs increase their volume, improve their standard of living, and help them meet competition.

"Already the amount of out-of-state eggs has been considerably reduced," they said.

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by

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Let's Do It Ourselves!

Here is a bright idea. It isn't ours; but as veteran industry editors we do pride ourselves that we know a good one when we see one. It's a brainchild of Harry Alter who, man and boy, has packed an unparalleled amount of all-around refrigeration industry experience into his successful lifetime. He has manufactured refrigerators and components; he is a top-drawer parts and supplies jobber; also, he is a successful appliance distributor in one of the nation's roughest competitive markets.

You can bank on it that an idea he sponsors is battle-scarred and practical. Here it is:

The Harry Alter Co., Inc.
Chicago, Ill.

Dear George:

Here is an idea that only a man in your position with your prestige and your eloquence can put over.

Briefly, it's persuading the people in this great refrigeration and air conditioning industry to make use of their products themselves.

Most of us in this business own one or more cars—how many are air conditioned? If we don't air condition our own cars, how can we expect the public to show much interest? I think every car driven by every contractor, wholesaler, distributor, and manufacturer, and their salesmen, should be equipped with air conditioning, no matter whether he sells flare nuts, expansion valves, refrigerants, compressors, or finished units. Much good would result.

Again we in this business should have our own places of business air conditioned.

Our offices, our stores, and our shops can provide excellent demonstrations of the use of air conditioning in business establishments other than bars and restaurants.

Likewise, many industry members have occasion to build a home and in my own case needless to say, I am about to build a small house which will have year-round air conditioning. Certainly if nothing more, we in the business should have window room coolers in our homes if complete winter and summer air conditioning is impractical.

Similarly in our kitchens! Where better can we in the industry exploit the home freezer; the new combination freezer and refrigerator; automatic defrosting, as well as dishwashers, disposers, and the like, than in our own homes?

Now, George, why not find a name for a campaign of this kind, also a slogan, and get under way? Maybe, you can get up a lapel button which you will award to an industry member who pledges to support the industry in this fashion. How about "Let's do it ourselves" as a slogan?

Kindest personal regards,
HARRY ALTER, President

Our Bob Price has proposed a similar idea. To our way of thinking, it's an idea which can't miss if it is translated into action.

Packard's famous slogan is "Ask the Man Who Owns One." That's good, and time-tested; but it's passive. Better, more aggressive thought:

"The Man Who Owns It Can Sell It."

Conformity can be had by bribery, flattery, or force; but one can no more legislate loyalty than one can legislate love, of which it is a part.—HUGH NIBLEY, *Western Political Quarterly*.

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"I have always felt that whatever the Divine Providence permitted to occur I was not too proud to report. The people are not served by pussyfooting, or by that sort of journalism in which nobody will ask who is the editor of a paper or the writer of an article, and nobody will care."—Charles A. Dana.



OFF THE CHEST

Silvercraft, Inc.
P.O. Box 107
Louisville 1, Ky.

Editor:

Undoubtedly you have received enough advice as to what to do to establish honest air conditioning rating, that by this time you could print and publish a volume that would do justice to the Encyclopedia Britannica. However, I have followed your articles with much interest and would like to put my oar in at this time.

We are probably the youngest member of the Air Conditioning and Refrigeration Manufacturers Family in the United States, since we have only had our product actually on the market since the first of February of this year, but I must admit we are somewhat surprised to find ourselves in an industry as large as the air conditioning and refrigeration field is today, which hasn't established a basis for a product manufactured within its scope. Frankly, I cannot see why there should be so much confusion concerning the establishment of basic rates and capacities. All of these basic rates and capacities are published in any good engineering handbook and standards have already been set down by the American Society of Heating & Air Conditioning Engineers. All of these basic standards are taught to students of engineering in various schools as a basic course and are elaborated upon if the student should desire to major in air conditioning, heating, and ventilating. There, it is only necessary that the manufacturer be honest in his test information but better still, why not establish a central testing laboratory for product manufacturers in the industry, and

allow unbiased performance charts derived from these tests to be published in the Manufacturers Catalog. Naturally all products which are exposed to these tests would carry a seal, so stating and the manufacturer would pay for these tests.

The quickest and most expedient way to establish this type of operation would be to solicit funds from everyone now manufacturing products for the air conditioning and refrigeration industry and the members would naturally be able to use the facilities of the testing laboratory at, possibly, a reduced charge.

May I make another suggestion; that you insert in your publication a small application form for manufacturers within the industry to fill out and indicate their personal interest in such an institute. And from this I believe it would be possible to establish a basic yearly rate for membership. It is not my idea to immediately go into the construction of an extremely elaborate laboratory for testing of air conditioning, refrigeration equipment but I believe that a committee could be set up immediately by either election or selection, that would publish a listing of the standards to be adhered to. This committee could also advise the merchandisers of these standards and a simple method for determining capacities from the information they have within their catalog files. Naturally the ultimate aim would be a central laboratory which would be maintained and staffed by the financial support of the manufacturers within the Air Conditioning & Refrigeration Family.

FRANK C. LEWIS,
President

The LAS VEGAS Story (2): Ingenious Installations Save Space On Commercial Refrigeration, Conditioning

Earlier this year the NEWS presented a series of articles titled "The Miami Story" which told about some of the developments in the refrigeration and air conditioning field in that famed resort area.

Starting with the Aug. 22 issue the NEWS presents "The Las Vegas Story" which tells about the developments and applications of refrigeration and air conditioning equipment in the fast-growing, high-rolling oasis in the Nevada wastelands.

Much of the information for this series was picked up by Editorial Director Phil Redeker while he was attending the Atomic Open Shot Tests earlier this year. Thus it is not a complete survey of all the factors involved in the industry there, but rather a discussion of some of the unusual phases of the industry.

This second article continues a general discussion of the situation in Las Vegas.

By Phil B. Redeker

There has been a tremendous market for package air conditioning equipment in Las Vegas, particularly in the crowded downtown area. Ned Bearden, president of Desert York, Inc., which lays claim to being the oldest of the air conditioning dealerships in the Las Vegas area, lists some of his installations on the back of his letterhead, and this list alone probably represents more units and tonnage than all the installations made in cities 10 to 20 times as large as Las Vegas.

Basementless Construction Is General Rule

Because basementless construction is the general rule in the area, the package commercial conditioners are installed in many ingenious ways to save space, and in a number of instances the top outlet grille section has been removed, and a duct system installed and used with the core of the package unit.

This has been particularly true in cases where a "zoned" system is desired, but the owner of the establishment could not give up space for the components of a central system. Ray Spence of Western Heating & Ventilating Co. has made installations of this nature with the Carrier 38-B unit, cutting the top open and installing a damper and ductwork.

Tremendous Commercial Refrigeration Market

This same matter of conservation of space holds true in the installation of commercial refrigeration equipment, for which Las Vegas offers a tremendous market. Biggest sellers now are icemakers, beverage coolers, and reach-in refrigerators.

One of the most unusual icemaker installations ever made is probably the one done by Bearden of Desert York for one of the downtown clubs. The two York DER 11 Flake Ice machines themselves are mounted on top of a walk-in cooler, and dump their ice through insulated shutters down to storage bins below, with thermostats to control each machine when the bin is filled. This saves a considerable amount of floor space, and since the area above the box was practically "dead" space, the machines were installed there.

Bearden also thinks that Desert York, Inc. has established some sort of a record by installing 22 Model 450 York icemakers on a two block

stretch on Fremont St. in downtown Las Vegas.

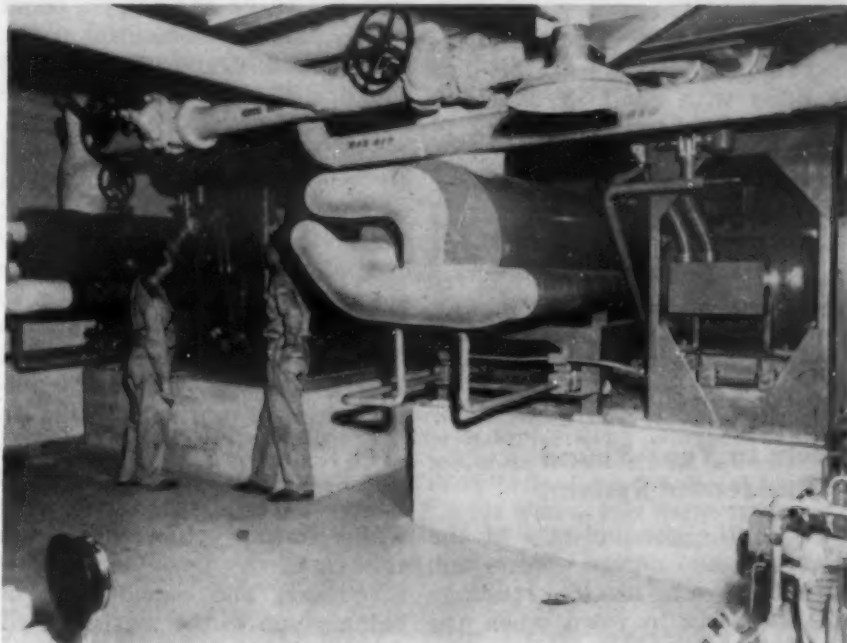
Desert York, Inc. designed and installed the refrigeration system for the turn-table ice skating rink at the Desert Inn. The skating rink "table" was

fabricated by Gale Dorothea Mechanisms, Elmhurst, L. I., N. Y.

Two model 30 HW York 3-hp. condensing units are installed on opposite sides of the turntable for counter balance. These compressors turn with the turntable with power and water supplied through slip ring mechanisms.

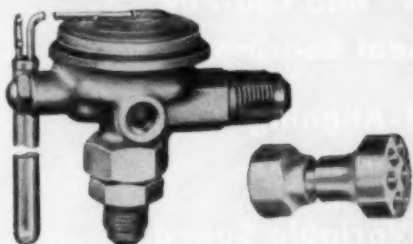
About one-quarter of a mile of 1/2-in. copper tubing is (Continued on next page)

INSTALLATIONS IN LAS VEGAS THIS YEAR have been among some of the biggest projects in the industry. At the Dunes hotel, which opened recently, are installed two 150-ton Worthington water-chilling systems of the type shown here. The Dunes has plans to expand into a "complete resort city" with additional air conditioning needed.



YOUR BEST SOURCE FOR A FULL LINE OF REFRIGERATION CONTROLS— DETROIT CONTROLS

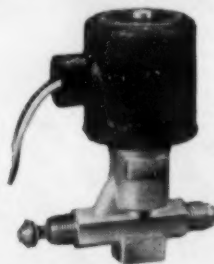
THERMOSTATIC EXPANSION VALVES



Complete line of distributors, up to 18 passes.

A broad line of valves with capacities to 25 tons F-12 and 40 tons F-22.

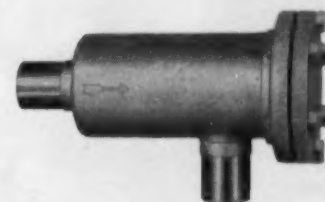
SOLENOID VALVES



A broad line of valves with capacities to 50 tons F-12 and 60 tons F-22.

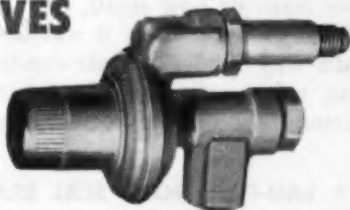
Special purpose miniature solenoid valves for any application.

STRAINERS



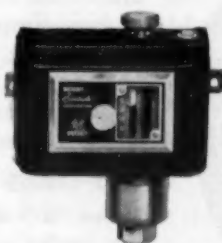
Most complete line from smallest noncleanable to large "Y" type cleanable strainers up to 3 3/8" ODF connections in some models. Also special ferrous types for ammonia.

AUTOMATIC EXPANSION VALVES



Extremely sensitive to pressure change and consistent in operation, these valves have various adjustable ranges from 25" vacuum to 100 P.S.I.!

AUTOMATIC CONTROLS



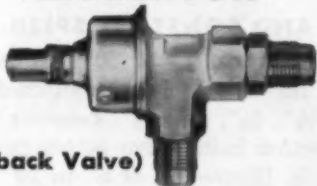
A wide range of controls for pressure, temperature, dual pressure applications, plus sequence and other special controls.

AUTOMOTIVE AIR CONDITIONING CONTROLS



Combination by-pass and suction valve with operating cam. These valves are engineered to meet high-performance requirements.

CRANKCASE PRESSURE REGULATOR



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For more information about products advertised on this page use Information Center, page 15.

The LAS VEGAS Story --

(Continued from preceding page)

clamped in between redwood 2 by 4's used to freeze the skating surface. Bottom of the pan is filled with sand. A sheet of ice approximately 2 in. thick is maintained.

A suction pressure regulator is used to control the ice temperature, and the refrigerant liquid is sub-cooled with a refrigerant line heat exchanger.

It is a flooded system, with coils fed by an expansion valve on a liquid distributor.

Boom In Year-Round Residential Systems

With the gradual rise of the Las Vegas design wet bulb Spence says he has had readings of 43% r.h. in town when the official reading at the airport was 17%), and the lowering of

cost for year-round residential systems, there has been a boom in the sale of residential units. Up to 1953, evaporative coolers had pretty much dominated the residential market.

But the boom in residential air conditioning has not been without growing pains. Some of the first jobs, even though they had enough capacity to provide a temperature differential up to 20° F., brought complaints from the users. Because when it's 110° F. outside, a 20° differential means that it's 90° inside.

Newer installations provide the kind of capacity that will offer inside temperatures that will definitely "feel" cool even though it may be a baking 110° F. outside, and consideration is being given to the matter of reducing the load in the construction of new housing. More care

is being given to estimating the load; in one project houses on the side of the street that get the full effect of the afternoon sun have larger condensing units than comparable houses across the street from them.

A custom-built home now being erected that isn't planned for a complete year-round system is a rarity, and many of the more expensive existing homes are converting to mechanical systems. The latter, with their basementless construction, offer somewhat of a problem in the matter of running ducts, but this is being solved by furring in ductwork or using air handling units of the "Spotaire" type over closet areas or the like.

Lively Market In 3,000 Mobile Homes

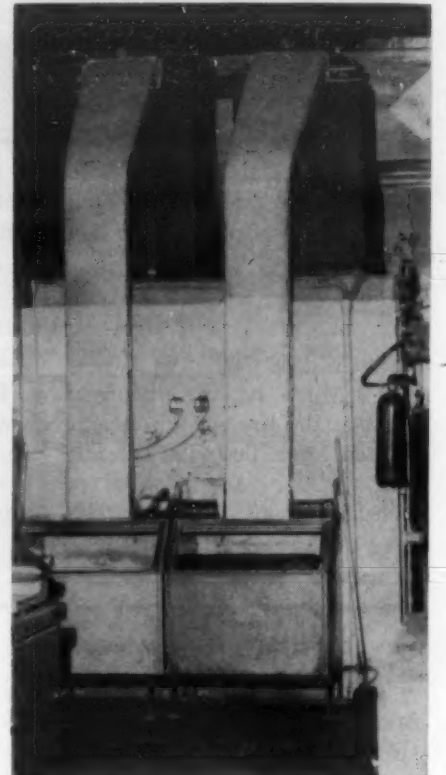
Another lively market for comfort cooling are the house trailer camps which are said to

add up to a total of 3,000 "mobile homes" in the Las Vegas area. Most all of these have cooling of some sort, but both window units and the special console trailer models of the type made by Carrier, which takes condenser air up through the floor, are showing tremendous sales gains. The Carrier trailer console models are being shipped in by the carload this year.

Does all this mean that everything is rosy for all the dealers and their employees? Generally, the level of prosperity among the dealers may be somewhat higher than those of dealers in other cities of comparable size.

Oldtimers See Too Much Price Cutting

But there are problems. Competition has become increasingly rougher, and the buying is very sharp. Proprietors of the



SPACE SAVING is a big factor in installations of equipment in Las Vegas. A unique way to save space was devised by Desert York, Inc. to save space in a downtown club by putting Flake Ice machines on top of a walk-in cooler, with the ice being discharged down into bins through metal chutes.

LEADERS RELY ON LAU

FOR SUPERIOR COMPONENTS IN AIR-HANDLING EQUIPMENT



Series "A" and Lau-Pak
Gold Seal Bearings

Self-Aligning
Pillow Blocks

Lausteel Variable Speed
and Constant Speed Pulleys






Put your Problems up to Lau

If they involve the above, or Belt-Drive and Direct-Drive Blowers, Wheels, or Fans. Request Lau Blower Catalog 707.

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In Canada • The Lau Blower Company of Canada, Ltd., Kitchener, Ont., Canada

LAU World's Largest Manufacturer of Air Conditioning Blowers

Quality engineering and advanced design are characteristics of every Lau component for air-handling equipment. Examples: the five units illustrated here. No matter how large or how small, how intricate or how simple, if you buy it from Lau you know it will live up to every claim made for it. That's why leaders in air conditioning, heating, ventilating, oil burning, refrigeration, and automotive accessory equipment manufacturing rely on Lau for standard and special items.

LAU SERIES "A" BEARINGS • LAU-PAK GOLD SEAL BEARINGS

Series "A": self-aligning, self-oiling bronze bearing held in the housing under uniform spring pressure. Large capacity oil reservoir. Bore sizes: $\frac{5}{8}$ ", $\frac{3}{4}$ ", 1", and $1\frac{1}{16}$ ". Gold Seal: requires no additional lubrication; ample supply of plastic petroleum sealed in housing. Bore sizes as above.

LAU SELF-ALIGNING PILLOW BLOCKS

Lightweight, low-cost, oil-tight steel housings with porous bronze bearings. Hold much more oil than cast iron types. Long bolt slots permit interchanging with other makes. Bore sizes: $\frac{5}{8}$ ", $\frac{3}{4}$ ", $1\frac{1}{16}$ ", 1", and $1\frac{3}{16}$ ".

LAUSTEEL VARIABLE SPEED AND CONSTANT SPEED PULLEYS

Variable Speed: allow speed variations up to 30%, thus assuring noise-free, efficient operation for many drive combinations. Diameter: $3\frac{1}{4}$ " OD. Bore sizes: $\frac{1}{2}$ ", $\frac{5}{8}$ ", and $\frac{3}{4}$ ". Constant Speed: for use with both "A" and "O" section belts. Give better performance with less friction, longer belt life. Diameters of 6" to 10" inclusive.

type of establishments that operate in Las Vegas are not known for throwing their money about carelessly. Oldtimers like Ned Bearden believe that too many jobs are being taken at little or no profit.

On the front page of a scrapbook which Bearden prepares for his salesmen he has pasted the analysis of a dealer-contractor's cost by R. S. Lafferty of Hill-York Co., Miami, Fla., which was published in a story in the Jan. 12, 1953 issue of AIR CONDITIONING & REFRIGERATION NEWS.

"Whenever they think about cutting the bid too much," Bearden says, "I remind them to take a look at those figures, which show just how small the contractors' net profit will actually be, and just what margins are necessary to make that profit."

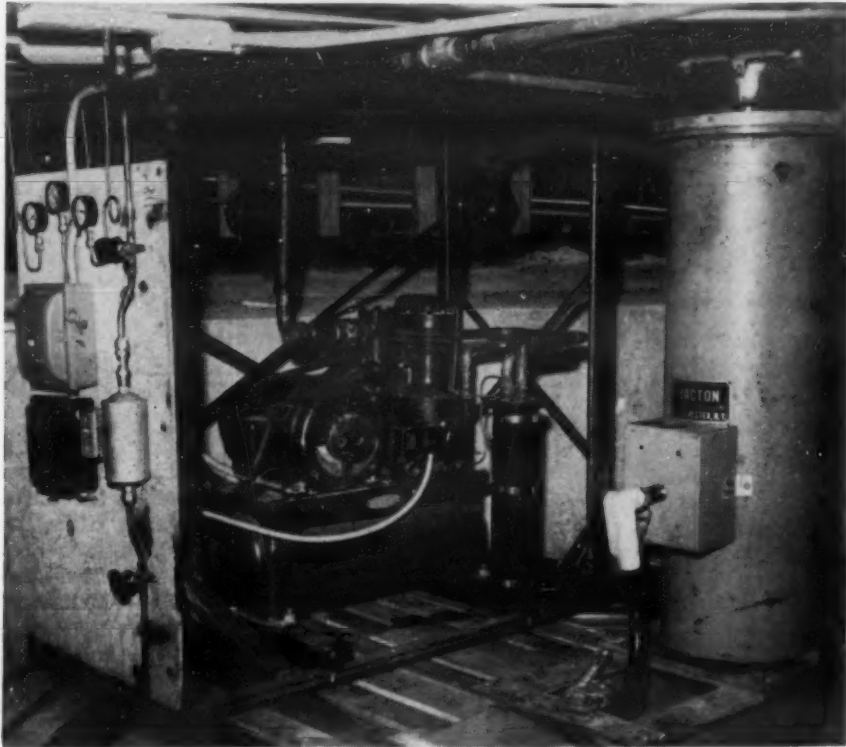
Labor Costs, Charges High

Labor costs are high, and labor charges are high. Going rate for refrigeration service calls is \$6 per hour for labor, with double time charged after 4:30 p.m. And most contractors will tell you that their costs are so high that they make no money on service labor.

Then there is the whole question of the level of efficiency of the labor force. There are some charges made generally that any type of labor in Las Vegas is not worth much, that because of the nature of the town and its temptations most workers are of the "floater" type and undependable, easily corrupted and readily capable of being pirated.

On the other hand, some dealers say that if a working man can settle down in the town and enjoy its many advantages (the superb but cheap entertainment and food, the exhilarating desert air, beauty of the surrounding mountains, resort areas at Lake Mead, etc.) and resist its temptations, he becomes superior to his counterparts in other areas of the country.

There is some opinion in Las
(Continued on next page)



TWO "MIRACLES" ARE CLAIMED BY Wilbur Clark's Desert Inn. One was the golf course the hotel constructed on desert wastes behind it. The other is a rotating ice rink that is supplied with refrigeration while it is rotating. This shows the compressor installation below the "rink on wheels." How this was accomplished is told in the accompanying story.

The LAS VEGAS Story--

(Continued from preceding page) was scheduled to open as this series of articles goes to press.

Vegas right now to the effect that there has been some overbuilding of the luxury hotels. At this time in 1954, there were eight such places—El Rancho Vegas, El Cortez, Flamingo, Sands, Thunderbird, Sahara, Last Frontier, and Wilbur Clark's Desert Inn.

Now, just a year later, six new hotels have opened. These are the Royal Nevada, Dunes, Showboat, Moulin Rouge, Riviera, and the New Frontier (this latter considered a new hotel although it is really an addition to the Last Frontier). And the Stardust, with more rooms than any of the others, five months of this year Me-

Continued Growth Factor Cited

However, the local optimists say that the expansion was needed, that the business will just "spread out" a little more over the hotels now in operation. They point to these growth factors in the tourist trade:

Chamber of Commerce estimates that 7,425,375 tourists visited Las Vegas in 1954, spending \$164 million, compared with 5,759,865 in 1953, spending \$149 million. In the first

Carran Field, the airport, handled 184,865 airline passengers, compared with 116,248 in the like period in 1954.

Chamber of Commerce officials are not complacent, however. While the community has been attracting an increasing number of conventions, they have been mostly of the "fun" or "reward" type, and there is really no place in which to hold meetings or exhibitions. Thus, there is under way plans for a convention hall that would hold 8,500 people—and that would naturally have to be air conditioned.

Most all of those active in the industry believe—together with almost all Las Vegas—that the city is only in its infancy so far as growth is concerned. It is said that every inch of land on both sides of U. S. Highway 91 going to Los Angeles has been sold to the California line (some 45 miles), and that there are plans on the

boards for nearly 100 more hotels of the luxury type. This is in addition to the new ones that just opened.

"It never fails to amaze me," said one contractor, "every time I ride out along the Strip.

I look up, shake my head, and say, 'What's that? It wasn't there yesterday.' This town really deserves its name 'Fabulous Vegas.'"

Which nobody can deny. (To Be Continued)

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FLEXIBLE HOSE and REUSABLE FITTINGS

... for every air-conditioning and refrigeration application. Sold in bulk for quick make-up of hose lines on the job or as complete hose assemblies ready for installation. Manufactured by STRATOFLEX, INC. — P. O. BOX 10398 — FORT WORTH, TEXAS

Write for Bulletin S-2R

IN STOCK . . . TO MEET YOUR NEEDS PROMPTLY AT REFRIGERATION AND INDUSTRIAL SUPPLY HOUSES



Air Conditioning Installed in Building

designed by

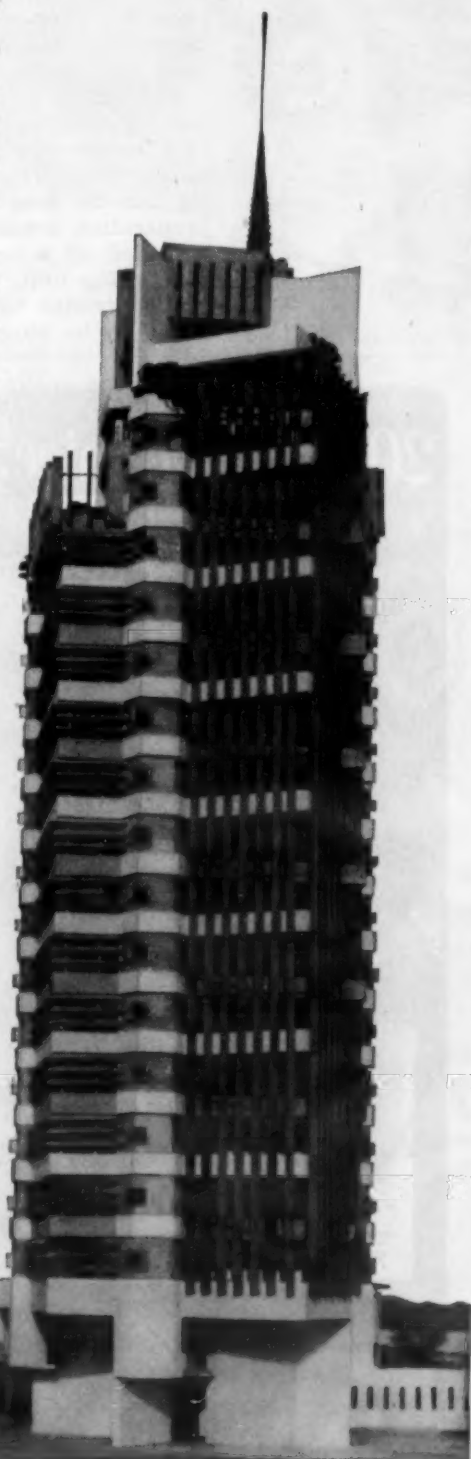
FRANK LLOYD WRIGHT

The unique Price Tower, located in Bartlesville, Oklahoma, is the new home of the H. C. Price Co., pipeline constructors. Rising to a height of nineteen stories (190 feet), this revolutionary structure is already famous in architectural circles. Among many other innovations is the incorporation of residential apartments as well as office space.

Supported in cantilever fashion from four vertical columns, all nineteen floors are air conditioned with refrigeration furnished by four Frick "ECLIPSE" compressors—sold and installed by Kay Engineering Co., Frick Distributors at Oklahoma City. All electric lines, water pipes, air conditioning conduits and other service facilities are contained within the four columns.

Frick industrial and commercial refrigeration and air conditioning—famous for over 70 years—remain, as always, the choice of discriminating architects, engineers and contractors.

Address all inquiries to your nearest Frick Branch or Distributor, or write, wire or phone Frick Company, Waynesboro, Penna., USA.



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AIR CONDITIONING AND REFRIGERATION

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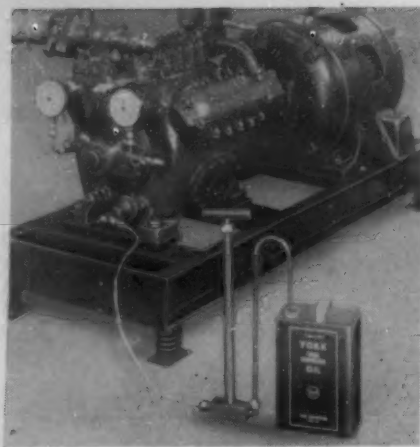
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What's New

Air Conditioning & Refrigeration News, August 29, 1955



Pump Keeps Air from Compressor Crankcase

—KEY NO E-851—

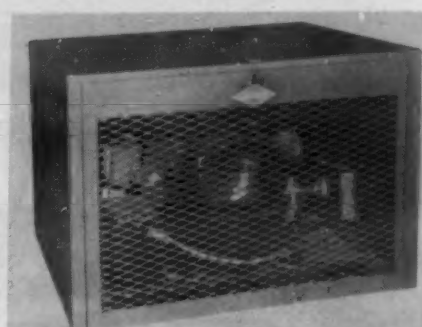
YORK, Pa.—A new, improved pump for charging oil by hand into "Freon" or ammonia compressors without pumping a vacuum on the crankcase is now being offered by York Corp.

Called the York super oil charging pump, it prevents air getting into the crankcase which would eventually enter the condenser and build up excessive condensing pressures, the manufacturer said.

Used with 1 or 5-gal. cans, the new pump offers increased capacity and improved valve design. A suction tube furnished with the pump extends nearly to the bottom of the can so air cannot enter the system while the tube is immersed.

The pump has a T-handle grip, replaceable parts, and threaded outlet that fits a standard 3/8-in. charging connection. The outlet is protected by a cap when not in use.

Unarco Offers 2 Add-on Home Conditioners



—KEY NO. E-852—

CHICAGO—Two new residential air conditioners, designed for use with any warm air furnace, have been introduced by the Union Asbestos & Rubber Co.'s Heating & Cooling Div., it was announced recently by Edwin E. Hokin, president.

One of the new units is an air-cooled model, Hokin said, the first to be manufactured by the company. Known as the "RA," it will be available in 2 and 3-hp. models.

The other, known as the "DN," will have 3 and 5-ton capacity. Both, Hokin said, are designed for remote installation. He explained:

"The coil assemblies can be installed vertically in horizontal duct systems or horizontally in down-flow systems. The compressors, housed in weatherproof cabinets, will be located outside the house.

"The use of over-sized 3/8-in. tubing in the coils will give greater dehumidification capacity."

The "RA" unit, Hokin said, is shipped in three parts and is assembled on the job.



Peerless Makes Gas Space-Saving Heater

—KEY NO. E-854—

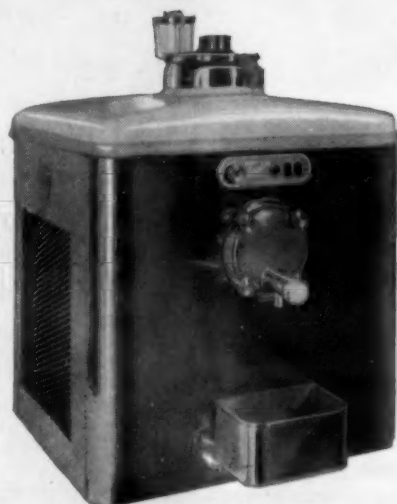
BOYERTOWN, Pa.—A new "Mighty Midget" gas-fired heating unit is being produced for homes by the Peerless Heating Co. here, the company announced.

Heart of the hot water heater is a unipiled thermal convertor (generator) that takes heat units from hot gases and pumps them into the heating system. Designed for space saving, the Mighty Midget can be installed anywhere in the home.

Available in three sizes, units are 19 in. wide by 21 1/2 in. deep with heights of 24 1/2 in., 30 1/4 in., and 36 in. Each is rated heavy duty and can be used with any hot water radiator, baseboard, and radiant heating system.

The heater is table-top high and free from automatic controls. It is made of cast iron, tested for 200 lbs. hydrostatic pressure, with an all-steel white baked enamel jacket, glass wool insulated on four sides of the boiler unit and on top. It is supported by an 8-legged cast iron base approved for installation on combustible floors.

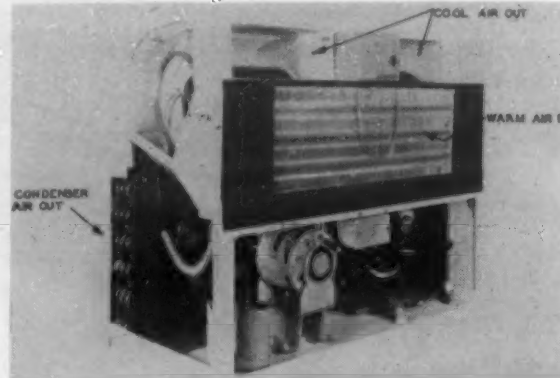
Tekni-Craft Introduces Continuous Freezer



—KEY NO. E-855—

BELOIT—Introduction of the new Taylor "411" compact continuous freezer has been announced by Tekni-Craft here.

Among its big-freezer features are: continuous mix feed; Micro-temp Controls to maintain proper temperatures constantly.



Wall Conditioner Is Quiet; No Water Drip

—KEY NO. E-856—

LONG ISLAND CITY, N. Y.—A new built-in wall air conditioner that is claimed not to drip or shed any water has been introduced by Amic Mfg. Corp. here.

Eric P. Cahn, president, said that "by means of an exclusive high humidity overflow design, involving drainage of excess moisture either into the building's heating system or a disposal pipe, intra-system condensation disposal is assured."

Cahn also claims exceptionally quiet operation for his unit through the use of four 5-in. diameter centrifugal blower fans for low velocity air movement. Sound deadening materials and shock absorbers are also provided.

The units measure only 18 in. deep, so that they mount flush with the outside building wall and extend only 6 in. into the room. They are 30 1/4 in. wide. On the outside, the anodized aluminum louvered opening is 13 1/2 in. high while the removable interior convactor cover measures 24 1/2 in. high.

A steel sleeve, which is part of the air conditioner, can be delivered ahead of time and built right into the wall. After the structure is enclosed and electrical wiring and heating installations completed, the conditioner itself can be installed entirely from the inside. The units are encased in galvanized steel 1/8 in. thick.

Each louver is 2 in. wide and angled to make the unit completely weatherproof without further treatment, according to Cahn. Even horizontal rain or snow cannot enter, he added.

A specially designed "V" pattern built down the center of the louvers separates the flow of hot

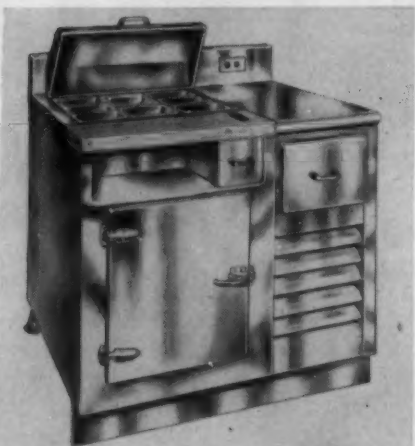
and cold air, he said. Fifty per cent fresh air is used by the units.

Rotary switch or pushbutton controls are offered. Six switch settings are "Off—Hi-Cool—Lo-Cool—Hi-Fan—Lo-Fan—Exhaust."

The Amic air conditioner is offered in three capacities, 1/2, 3/4, and 1 hp. rated at 5,500, 8,500, and 11,000 B.t.u. Hermetically sealed Tecumseh units are used in all three models. The smallest employs "Freon-12" and the two larger units use "Freon-22."

A five-year warranty covers the refrigeration circuit including compressor, evaporator, and condenser.

Self-Contained Sandwich Unit Plugs Into Wall



—KEY NO. E-853—

PHILADELPHIA—A self-contained sandwich unit which plugs into a wall outlet, eliminating installation expense, is available from Star Metal Mfg. Co., Inc. here, the company stated.

The entire refrigeration system can be removed by taking out four screws and lifting it off the toaster stand. Repairs and servicing can be done away from food preparation areas.

Cooled by a hermetically-sealed condensing unit, the thermostatically controlled refrigerated base is ready to be plugged in.

20-Year Guarantee!



ON THE WETTED DECK SURFACE

HALSTEAD & MITCHELL COOLING TOWERS

2 to 100 tons

"Built like a Battleship"—economical, lastworthy. Pressure-treated wood in wetted deck surface guarantees against rotting or fungi growth. Stainless steel fan and shaft, plus individual cabinet coatings of Vinsynite, Vinyl Aluminum and chlorinated rubber, add important years of life. Wholesalers in Principal Cities

Halstead & Mitchell
BESSEMER BLDG. PITTSBURGH 22, PA.



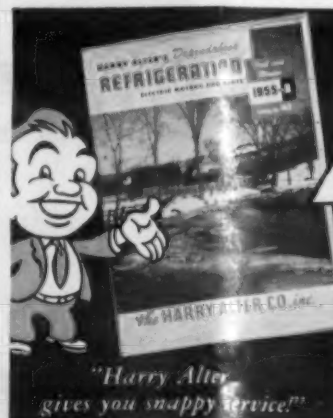
"Trouble-free performance... makes satisfied customers for me," says Ernest W. Farr, Bell Refrig. Corp., Cleveland.

TO GET ON THE MOST PROFITABLE FACTORY-DEALER TEAM IN THE BUSINESS, TIE UP WITH

TYPHOON AIR CONDITIONING

505 Carroll St., Brooklyn 15, N. Y.

* COMMERCIAL AIR CONDITIONERS, 2 TO 25 TONS
* RESIDENTIAL YEAR-ROUND UNITS FOR GAS OR OIL
* ROOM AIR CONDITIONERS, 1/2, 3/4, 1 H.P.
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Over 10,000 (count 'em!) items, shown and priced:

REFRIGERATION PARTS and Supplies

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Ebel Automat Sells Eggs and Milk

KEY NO. E-858

PHOENIX, Ariz.—Ebel Co. here has placed on the market an egg and milk automat which allows egg producers to sell at retail, according to the manufacturer. Although milk vendors have



Janitrol Offers Larger Packaged Cooling Units

KEY NO. E-857

COLUMBUS, Ohio—The Janitrol packaged summer cooling line has been expanded with three larger capacity models, it is announced by the Janitrol Heating & Air Conditioning Div. of Surface Combustion Corp.

The new units, in 8, 10, and 15-ton sizes, are completely self-contained in attractive, console-type cabinets, Harry C. Gurney, sales manager stated. To operate, only condenser water, drain, and electrical connections are required, he noted.

The conditioners come with hermetically-sealed refrigeration unit, large capacity air filters, powerful slow-speed fan, return air intake, and adjustable air discharge grilles, it was stated. Moving equipment is isolated from the cabinet panels.

Twin refrigeration circuits are a feature of the 10 and 15-ton models. On mild days, only one circuit operates to provide humidity control without over cooling, according to Gurney. When it's hot, the second circuit cuts in automatically to provide full capacity cooling. This two-stage operation is said to provide "full-time comfort on part-time operation."

To convert these units to year-round conditioners, either steam or hot water heating coil accessories can be added inside the cabinet as optional equipment.

been proved, adding egg retailing is a new approach, the company stated. These automats are weatherproof.

All mechanisms are housed in an aluminum, refrigerated walk-in box. More than 40 dozen eggs are handled by each vendor in either 2 by 6-in. or 3 by 4-in. cartons. Milk vendors hold over 100 half-gallons in either quart or half-gallon cartons.

Two models are built, shipped ready to operate, Ebel said. Each has a galvanized pan covering the bottom of the unit, thermostats for individual control, an automatic timer which turns lights on at night and off in the morning, individual coin units with slug rejectors and sales tabulators, and price adjusting mechanism. A heating unit is installed at no additional cost for colder climates.

One model is 5 ft. by 8 ft. by 8 ft. which can sell two grades of eggs, two sizes of milk cartons, or one of each. The other, slightly larger, consists of three vending mechanisms.

'Styrofoam' Panel Is Strong, Lightweight

KEY NO. E-859

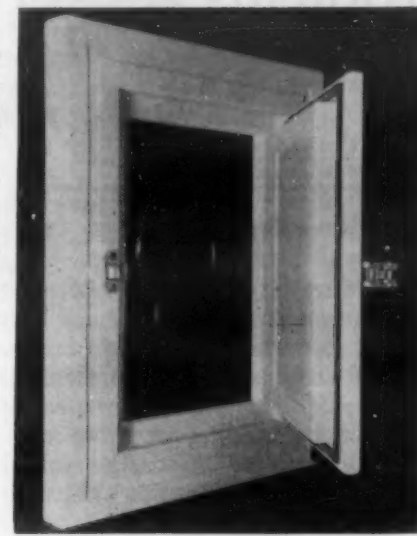
GRAND RAPIDS, Mich.—A strong, lightweight, insulated plastic sandwich construction panel has been developed by Haskelite Mfg. Corp. here.

The panel, called "Hasko-Struct," is composed of a "Styrofoam" (Dow expanded polystyrene) core with a facing of glass fiber cloth reinforced polyester sheet. It is moistureproof and corrosion-resistant.

Hasko-Struct panels are available in a wide range of stock sizes and thicknesses or in special sizes. The Styrofoam core, with a density of 2 lbs. per cu. ft. or higher, is covered with the polyester reinforced glass fiber cloth in .018 in. and .032 in. thickness.

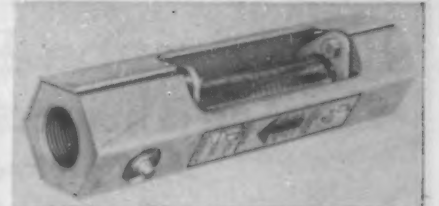
The standard sandwiches are 1 in., 2 in., 3 in., 4 in., or 6 in. in thickness. Special sizes run as high as 18 in. Standard width is 48 in. with lengths 96 in., 120 in., or 144 in.

The panels are now being field



NEW SANDWICH PANEL of Styrofoam and glass fiber cloth reinforced polyester sheet is useful for refrigerator and cooler doors because of its insulating properties.

tested in several fields, including cold storage and freezing.



'Thermoflo Balancer' Shows Water Flow

KEY NO. E-8510

MORTON GROVE, Ill.—A new type of liquid flow indicator designed for balancing warm water heating and chilled water cooling systems was announced recently by Bell & Gossett Co. here.

The new unit, called "Thermoflo Balancer," indicates the water flow rate through a circuit up to 10 g.p.m. A valve is built in to adjust the flow rate to the desired setting. A thermometer is visible through the sight glass.

By visually checking the water flow rate in g.p.m., a system can be balanced the first time.

Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

Products Advertised

(list name, page, and issue date)

WHAT'S NEW OR CURRENT LITERATURE AVAILABLE

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Key No.	Key No.
Key No.	Key No.
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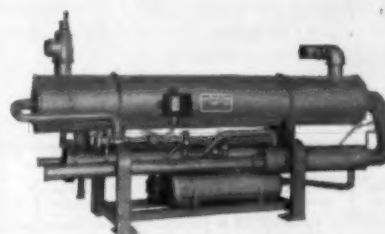
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DETROIT 26, MICHIGAN



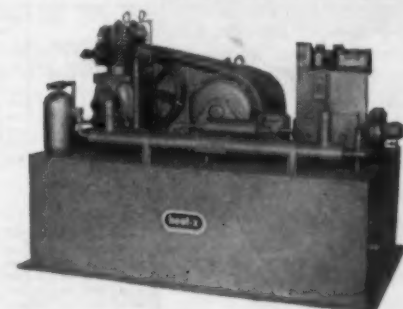
Heat-X 'PC' Units (above) provide the practical, space-saving answer to your water chilling needs... for air conditioning systems... drinking water or processing applications.

Inner-Fin construction of refrigerant passages, exclusive with Heat-X, permits a compactness impossible with old fashioned construction. Result: greater cooling capacity with far less bulk. Entirely self-contained, these package chillers are delivered completely wired, charged with Freon-12, ready to install. Only power and water connections are required. Available in 2 H.P. through 75 H.P. models.



'PCL' UNITS (left) are designed for those who prefer a chiller to which they can tie in their own condensing unit and water pump. Construction is the same as the 'PC' line.

'CCP' UNITS (right) are complete and ready to install, offer another method of packaged cooling. Combinations of cast aluminum coolers provide continuous chilled water, eliminate danger of freeze-up damage. Hermetic compressors carry 5 year warranty.



HEAT-X, Inc.
BREWSTER • NEW YORK

Refrigeration Problems And Their Solution

By Paul Reed
For Service and Installation Engineers



Frequently Used Technical Terms (3)

Vacuum—Pressure, usually indicated in inches of mercury, less than Atmospheric Pressure.

Gauge Pressure—Pressure based on atmospheric pressure as zero. Pressure above atmospheric, calibrated in pounds per square inch (p.s.i.) Pressure below zero, calibrated in inches of mercury vacuum (in. hg. vac.).

Heat Transfer—The process of heat passing from one substance to another by Conduction, Radiation, or Convection.

Conduction of Heat—Transfer of heat through a material at rest. Depends upon molecular motion.

Convection—Transfer of heat by the motion of a fluid. Natural Convection, or Gravity Convection, is fluid movement resulting from variation in density of the fluid, corresponding to changes in temperature.

Forced convection is fluid movement as a result of me-

chanical action from a fan, pump, agitator, etc.

Conductivity of Heat—Measure of rate of flow of heat in B.t.u. per hour through one square foot of a single material one inch thick with the temperature of the warm side one degree F. higher than the cold side. Also known as the k factor.

Conductance of Heat—Measure of rate of flow of heat in B.t.u. per hour, through one square foot of either a single material or of a wall of different materials, with the temperature of the warm side one degree F. higher than the cold side. Material may be of any thickness. Also known as the C factor.

Resistivity to Heat Transfer—The reverse of Conductivity. Numerically, Resistivity is the reciprocal of Conductivity; that is, Resistivity equals 1 divided by the Conductivity.

Emissivity—Ability of a surface to radiate heat. Equals the Absorptivity.

Absorptivity—Ability of a surface to absorb heat. Is the opposite of Reflectivity.

Reflectivity—Ability of a sur-

face to reflect heat. Any surface that is a good reflector is a poor absorber of heat and its emissivity is low also. A black, dull surface is a good absorber and a poor reflector, and its emissivity is high.

Coefficient of Linear Expansion—The increase or decrease in length of a material for each degree change in temperature.

Coefficient of Cubical Expansion—The increase or decrease in volume of a material for each degree change in temperature.

Gas Laws—Laws applying to superheated gases and vapors. Do not apply to saturated vapors and are inaccurate for slightly superheated gases. These laws relate particularly to changes in temperature, pressure, and volume of the gases.

Charles' Law—This says that if the volume of the gas remains constant, its absolute pressure varies as its absolute temperature.

Gay-Lussac's Law—Another gas law that says that if the pressure of the gas remains constant, its volume varies as its absolute temperature.

Boyle's Law—A third gas law which says that if the temperature of a gas remains the same, its volume varies inversely as the absolute pressure, or vice versa; that is, if the temperature remains constant, the volume increases in proportion to the decrease in the absolute pressure.

Universal Gas Law—Is a combination of the three gas laws, which says that for any gas, the Absolute Pressure (P) of the gas in pounds per square foot multiplied by the Specific Volume (V) in cubic feet per pound, equals the product of the Absolute Temperature (T) of the Gas (in degrees Rankine) and the Gas Constant (R) for that gas. Mathematically it is expressed: $PV = RT$.

Gas Constant—A factor for each gas, that can be found by dividing 1,546 by the Molecular Weight of that gas. The gas Constant for Air is 53.3; for Ammonia, 90.77; "Freon-12" or "Genetron-12," 12.79; "Freon-22" or "Genetron-141," 17.88; etc.

Dalton's Law of Partial Pressures, defined last week, applies to mixtures of all gases, although it was mentioned particularly in connection with mixtures of air and water vapor.

Temperature Difference—The difference in degrees, in the temperatures of two substances in thermal contact with one another through conduction, radiation, or convection, or a combination of two or all three of these methods of heat transfer. Abbreviated TD.

Mean Temperature Difference—The mean or "average" temperature difference. Abbreviated MTD. The arithmetical mean may be used, but more commonly the logarithmic mean is used.

Conservation of Energy—A physical law that says that energy can neither be created nor destroyed, but that it may be converted from one form to another. In such a conversion, some of the energy will be "lost," to man, as far as making use of all of the original energy is concerned, but it is

not lost to nature. Thus, all of the electricity drawn by an electric motor will not be converted into motive power. Some is converted into heat, and thus "lost" to man, but still stays in nature.

Mechanical Equivalent of Heat—If 1 B.t.u. could be 100% converted to mechanical power, it would produce 778.16 foot pounds, which is known as the Mechanical Equivalent of Heat.

Foot-pound—The energy required to raise one pound one foot against the force of gravity.

Horsepower—The use of 550 foot-pounds per second, or 33,000 foot-pounds per minute. (To Be Continued)

Remco Reports UL OK's 'Super-Flo', 'Cross-Flo' For 'F-12', 'F-22'

ZELIENOPLE, Pa. — Remco "Super-Flo" filter-driers and "Cross-Flo" drier-filters have been approved for use with "Freon-12" and "Freon-22," reports Ken Newcum, company vice president.

Minimum bursting pressure required for use with "Freon-22" is 1,500 p.s.i. and for "Freon-12" 1,175 p.s.i.

On some applications of air-cooled units using "Freon-22" operating head pressures have been found to run higher than normal, and Underwriters Laboratories may require ultimate bursting pressure on the high side to be a minimum of 2,000 p.s.i.

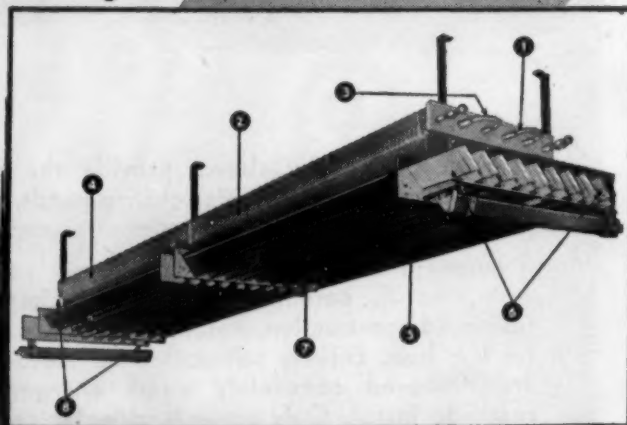
Manufacturers who require the higher bursting pressure should so specify and Super-Flo and Cross-Flo filter-driers using use of all of the original requirements, it was stated.

"some combinations can't be beat!"



Tenney COIL AND PAN COMBINATIONS

For it takes a combination—a well integrated team of sound engineering and quality craftsmanship—to produce the most efficient and durable Coil and Pan Combinations. That's why, for either standard or special installations, it pays to "take it to TENNEY."



1. Copper-welded connections
2. Super-sensitive fins
3. Electro-finish-plated tubing
4. Mechanically molded bond of faceted fin to tube
5. Louvers of heavy aluminum alloy
6. Scientifically placed louvers for improved air circulation
7. Louvers temperature-equalized to prevent dripping
8. Adjustable pull hook hanger for easy installation and cleaning

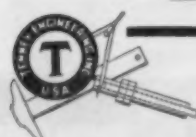
SERVICEMEN CONTRACTORS, JOBBERS, ENGINEERS

Tenney brings you the advantages of advanced engineering and manufacturing facilities to handle any and every refrigeration problem, for the Tenney line is built to suit your needs. Outline your problem, and let us prove that a Tenney unit will solve it. Tenney Engineering, Inc. AN-829

Coils And Coil & Pan Combinations For 8 Ft. Walk-In-Coolers									
SIZE	10" TO 12" COILS	14" TO 16" COILS	18" TO 20" COILS	22" TO 24" COILS	26" TO 28" COILS	30" TO 32" COILS	34" TO 36" COILS	38" TO 40" COILS	42" TO 44" COILS
1/2" x 1/2"	2000	1000	500	250	125	62	31	15	7
3/4" x 3/4"	3000	1500	750	375	187	93	46	23	11
1" x 1"	4000	2000	1000	500	250	125	62	31	15
1 1/4" x 1 1/4"	5000	2500	1250	625	312	156	78	39	19
1 1/2" x 1 1/2"	6000	3000	1500	750	375	187	93	46	23
2" x 2"	8000	4000	2000	1000	500	250	125	62	31
2 1/2" x 2 1/2"	10000	5000	2500	1250	625	312	156	78	39
3" x 3"	12000	6000	3000	1500	750	375	187	93	46
3 1/2" x 3 1/2"	14000	7000	3500	1750	875	437	218	109	54
4" x 4"	16000	8000	4000	2000	1000	500	250	125	62

Coils And Coil & Pan Combinations For 10 Ft. Walk-In-Coolers									
SIZE	10" TO 12" COILS	14" TO 16" COILS	18" TO 20" COILS	22" TO 24" COILS	26" TO 28" COILS	30" TO 32" COILS	34" TO 36" COILS	38" TO 40" COILS	42" TO 44" COILS
1/2" x 1/2"	2500	1250	625	312	156	78	39	19	9
3/4" x 3/4"	3500	1750	875	437	218	109	54	27	13
1" x 1"	4500	2250	1125	562	281	140	70	35	17
1 1/4" x 1 1/4"	5500	2750	1375	687	343	171	85	42	21
1 1/2" x 1 1/2"	6500	3250	1625	812	406	203	101	50	25
2" x 2"	8500	4250	2125	1062	531	265	132	66	32
2 1/2" x 2 1/2"	10500	5250	2625	1312	656	328	164	82	40
3" x 3"	12500	6250	3125	1562	781	390	195	97	48
3 1/2" x 3 1/2"	14500	7250	3625	1812	906	453	226	113	56
4" x 4"	16500	8250	4125	2062	1031	515	257	127	63

A complete range of standard sizes
Special sizes built to order



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ENGINEERING, INC.

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Plants: Union, N. J. and Baltimore, Md.

Engineers and Manufacturers of Refrigeration and Environmental Equipment

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LIQUID RECEIVERS



[Available in Diameters Through 5"]

- FLEXIBILITY OF DESIGN TO FIT A WIDE RANGE OF APPLICATIONS
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- EACH RECEIVER PRESSURE TESTED AND STAMPED BY INSPECTOR
- HYDROGEN BRAZED CONSTRUCTION
- COMPETITIVELY PRICED

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BRIGHTON, MICHIGAN

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THE SERVICEMAN LINE of Testing Gauges, Testing Thermometers, Timers, etc.
PRESSURE GAUGES and Dial Thermometers for all services.
MARSH-ELECTRIMATIC, Water Regulating Valves, Solenoid Valves.
MARSH INSTRUMENT COMPANY
Sales Affiliate of Jos. P. Marsh Corporation
Dept. D., Skokie, Ill.

Olsen Sale

(Concluded from Page 1, Col. 2) of the Olsen Co. will receive one share of Westinghouse common for each three shares of Olsen stock held, if they approve the proposal.

About 225,000 shares of Westinghouse common will be required to complete the purchase of the Olsen company, said President Gwilym A. Price of Westinghouse.

The Olsen company with its subsidiary, the Henry Furnace Co. of Medina, Ohio, has 800 employees, and manufactures a broad line of both gas and oil fired warm air home heating units.

"Long established in the air conditioning business, Westinghouse will for the first time have facilities for the manufacture of a complete line of home heating and cooling equipment and the broad distribution facilities required to serve this market," said William W. Sproul, Jr., vice president, general industrial products, in explaining the interest of Westinghouse in acquiring Olsen's assets.

If the Olsen stockholders approve the sale, C. A. Olsen will become president of the newly formed, wholly owned subsidiary of Westinghouse. The Olsen name will be continued, as will the firm's trade-names—"Luxaire" and "Moncrief." No changes are contemplated in the personnel or operating policies of the organization.

The Olsen distribution channels will be maintained. In addition, Olsen will manufacture residential heating units for Westinghouse which will be distributed through the nationwide Westinghouse distribution facilities, Sproul said.

Conditioning for Chapel

ALTUS, Okla.—Contract for air conditioning the chapel at the Altus Air Force Base was awarded to Chickasha Plumbing & Heating Co., Chickasha, Okla., on a low bid of \$14,520 by the Corps of Engineers, U. S. Army.

Gov't Survey Covers Literature on Irradiated Foods

WASHINGTON, D. C.—A four-volume survey of scientific literature on the use of atomic radiation to sterilize food has been published by the Commerce Dept.

The first volume is entitled "Radiation Sterilization—Review of Literature in Selected Fields." It reviews research in the fields of proteins, carbohydrates, meats, vitamins, and enzymes.

Priced at \$2, this volume is "designed to give the food and packaging investigator a brief but comprehensive survey of the progress of radiation sterilization as it stands today," the department said.

The second and third volumes contain a detailed bibliography of all available material in the field. They may be obtained for \$6.75 and \$8, respectively.

The fourth volume is a subject index for the bibliography. Its price is \$7.25.

The survey was prepared by the Quartermaster Food & Container Institute for the Armed Forces. Copies of the reports may be obtained from the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C.

Sunroc Appoints 2 Representatives

GLEN RIDDLE, Pa.—Appointment of Emmett L. Barlow, Jr. of Atlanta and the William T. Miles Co. of Seattle as manufacturers' representatives for the "Sunroc" food service line was announced recently by the Sunroc Corp. here.

Barlow will call on restaurant and school supply wholesalers in Tennessee, North Carolina, Georgia, Florida, and the city of Bristol in Virginia.

The Miles Co. will call on similar dealers in the states of Washington, Oregon, Idaho, and Montana and British Columbia.

Coleman Heating and Cooling Sales Boost Offsets Defense Lag

WICHITA, Kan.—An increase in sales of heating and air conditioning equipment has more than offset an anticipated decline in deliveries of military products, the Coleman Co., Inc. reported recently.

Consolidated net sales for the period ending July 31 were \$23,127,933 with earnings of \$514,777, equal to \$1.19 a share on the 400,000 shares of common stock.

For the same period last year sales were \$22,688,533 with earnings of \$553,385, or \$1.29 a share.

The board of directors declared a regular third-quarter dividend of 25 cents a share payable Sept. 2 to common stock of record Aug. 26, and a dividend of 53½ cents a share to preferred stock payable Sept. 12 to stock of record Aug. 26.

Burton, Star Steel Name Carl Beltz

DETROIT—Carl Beltz has been appointed manager of commercial and residential air conditioning equipment for Star Steel Supply Co. and the Burton Co., it was announced recently by Meyer Fishman, executive vice president of the two firms.

Beltz will be in charge of an extensive new dealer development program, which will involve setting up and training a dealer organization to service the rapidly-growing markets in southeastern Michigan.

Beltz was formerly service manager and later general superintendent of James & Roach. For the past three years, he has served as sales manager of its wholesale division, Temperature Control, Inc.

The two firms are Chrysler Airtemp distributors for eastern Michigan, and will soon occupy a new million-dollar plant and office building in Melvindale.

(Concluded from Page 1, Col. 5)

master mechanics. He offered a substitute set of regulations based on this limitation.

C. Braswell Collins, representing the Refrigeration Trades Association, favored the proposed system that would require annual licenses from contractors, master mechanics, limited master mechanics (to equipment of 25 tons capacity or less), journeymen, and apprentices.

At present, refrigeration contractors legally need both a plumbing license and an electrical license to do their work. However, they operate in "condoned violation" of the electrical and plumbing codes. Purpose of the proposed regulation is to require a single license to cover the entire installation and servicing job.

Collins declared that the proposed regulation gives the refrigeration and air conditioning contractor the "legal right to work."

Thomas X. Dunn of Pipefitters Local 602 objected to singling out the refrigeration trade. He pointed out that sheet metal workers, carpenters, and bricklayers also play a part at times in air conditioning installations. "Are they to be licensed, too?" he asked.

Later, the corporation counsel's office for the district, pointed out that those firms that do only electrical work on refrigeration or air conditioning jobs would be able to continue their work in this field under their present electrical license.

It was noted that the regulations exempt those "engaged in the general maintenance of self-contained unit systems containing not more than 2 lbs. of refrigerant." This is considered to be the equivalent of units of 1 hp. or less.

A detailed description of the proposed regulations appeared on page 2 of the Aug. 1 issue of the NEWS.

Church Gets Air Cooling

MERIDIAN, Miss.—Air Comfort Engineering Co. submitted the low bid of \$41,213 for the job of air conditioning the Central Methodist church.

Prowse, Ltd. To Mfr. Some Liquid Carbonic Products In Canada

CHICAGO—The Liquid Carbonic Corp. has entered into a new agreement for the handling of its durables goods business in Canada, William A. Brown, Jr., president and general manager, announced recently.

Prowse Ltd. of Montreal, a subsidiary of the Robert Mitchell Co., Ltd., will henceforth manufacture the company's ice cream cabinets, soda fountains, and kitchen equipment, Brown said.

The Liquid Carbonic Canadian Corp. will continue to market these products and will also sell the Prowse Ltd. line of sheet metal equipment.

"This is another in a series of moves to carry out our previously-announced policy."



It's the talk of the trade...

a potential customer at every stop

ICE BOY

MODEL LC-25

Cash in on these BIG selling features:

- Dial-a-size Control
- King Size Ice Tips
- Sanitary — ice tips washed while made
- Low Maintenance Cost

Best of all, you sell the Ice Boy to every type of outlet; bars, restaurants, cafeterias, florists, groceries, etc.



ICE BOY

MODEL LC-25

Compact. Fits anywhere. Available in Avalon Grey or Stainless Steel. Two other sizes available.

Getting more popular every day. Watch for the sign of good ice.



Ice Boy Works Here

ICE BOY

by Lipman Division of Yates-American

----- Tear out and mail today -----

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Gentlemen: I'm interested. Please send me specification sheets and literature describing the complete Ice Boy line.

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Title _____
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Engineers

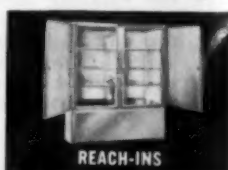
There's a future for you with



Graduate engineers or equivalent with three to five years' experience in survey, load calculations, equipment selection, installation supervision are needed for work in southeastern states.

Write, giving education, experience and salary requirements to:

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REACH-INS



UPRIGHT FREEZERS



TWO TEMPS



UNDERCOUNTERS



BEVERAGE COOLERS



ORIGINATOR AND OLDEST CONTINUOUS MANUFACTURER OF REFRIGERATORS AND FREEZERS
Designed and engineered for heavy duty performance

FOSTER BUILDS OVER 200 MODELS OF MATCHED PRODUCTS ONLY ONE TOP QUALITY LINE! NO 2ND OR 3RD LINES!

Whether it's for a hotel, restaurant, school, hospital, or any institutional user — there's a model designed specifically to fit individual needs.

Foster has had long and successful experience in building welded all-aluminum refrigerators and freezers for installations all over the world. They have met every in-the-field test for strength, durability and long life.

Thousands upon thousands of satisfied users know that Foster meets the most exacting specifications, the most critical demands of hard, day to day use, year after year.

And most important—they're priced low and right!

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FOSTER REFRIGERATOR CORP. HUDSON, N. Y.

For more information write to Box 32.

22 NEMA Firms Report 8% Rise In Freezer Sales for First 5 Months

NEW YORK CITY—Though May home freezer sales dropped 4% below last year, sales for the first five months were still 8% above the 1954 period, figures released by the National Electrical Manufacturers Association indicated.

The 22 firms reporting to Nema sold 57,618 freezers during May, some 2% fewer than they sold in April. Sales within the United States were only 1/2% less than in April, but sales

to other countries declined by 30%.

As compared with last year, May sales in the United States were down 4%.

Those to Canada rose 2%. Sales to other foreign countries dropped 21%.

For the first five months, sales within the United States improved 6% over last year, while sales to Canada jumped 41%, and to other foreign countries 23%.

57,618 Models Sold In May by NEMA Firms

Summary for May and First Five Months, 1955

Electric Farm and Home Freezers—Complete—Sales by Sizes—Units

Farm and home freezers complete with high and low side and cabinet where 50% or more of the net cabinet capacity is designed for freezing and/or storage of frozen foods.

Sizes	MAY (22 Companies)			Total
	Domestic (48 States and D. C.)	Canadian	Other Foreign	
1. 6 cu. ft. (6.4 & under)				
Chest Models	*	*	*	*
Upright Models	†	†	†	†
2. 7 & 8 cu. ft. (6.5 to 8.4)				
Chest Models	*1,712	*105	*31	*1,848
Upright Models	†461	†7	†10	†478
3. 9 & 10 cu. ft. (8.5 to 10.4)				
Chest Models	1,351	120	125	1,596
Upright Models	†	†	†	†
4. 11 & 12 cu. ft. (10.5 to 12.4)				
Chest Models	2,546	36	97	2,679
Upright Models	†5,026	†190	†183	†5,399
5. 13 & 14 cu. ft. (12.5 to 14.4)				
Chest Models	6,228	284	241	6,753
Upright Models	5,719	93	147	5,959
6. 15 cu. ft. (14.5 to 15.4)				
Chest Models	5,155	156	82	5,393
Upright Models	†	†	†	†
7. 16 & 17 cu. ft. (15.5 to 17.4)				
Chest Models	3,616	19	27	3,662
Upright Models	†7,218	†89	†55	†7,362
8. 18 & 19 cu. ft. (17.5 to 19.4)				
Chest Models	4,639	147	134	4,920
Upright Models	4,314	62	17	4,393
9. 20 & 21 cu. ft. (19.5 to 21.4)				
Chest Models	4,399	240	12	4,651
Upright Models	†	†	†	†
10. 22 cu. ft. (21.5 and over)				
Chest Models	368	4	6	378
Upright Models	†12,147	†	†	†12,147
Total Chest Models	30,014	1,111	755	31,880
Total Upright Models	24,885	441	412	25,738
Total All Models	54,899	1,552	1,167	57,618

FIRST FIVE MONTHS, 1955

	Sizes	Domestic (48 States and D. C.)	Canadian	Other Foreign	Total
1.	6 cu. ft. (6.4 & under)				
	Chest Models	*	*	*	*
	Upright Models	†	†	†	†
2.	7 & 8 cu. ft. (6.5 to 8.4)				
	Chest Models	*14,123	*633	*882	*15,638
	Upright Models	†1,239	†28	†52	†1,319
3.	9 & 10 cu. ft. (8.5 to 10.4)				
	Chest Models	9,184	388	544	10,116
	Upright Models	‡	‡	‡	‡
4.	11 & 12 cu. ft. (10.5 to 12.4)				
	Chest Models	23,953	728	732	25,413
	Upright Models	‡28,566	‡772	‡892	‡30,230
5.	13 & 14 cu. ft. (12.5 to 14.4)				
	Chest Models	27,493	1,137	632	29,262
	Upright Models	26,925	384	1,184	28,493
6.	15 cu. ft. (14.5 to 15.4)				
	Chest Models	28,230	809	287	29,326
	Upright Models	§	§	§	§
7.	16 & 17 cu. ft. (15.5 to 17.4)				
	Chest Models	22,082	542	84	22,658
	Upright Models	§37,006	§661	§290	§37,957
8.	18 & 19 cu. ft. (17.5 to 19.4)				
	Chest Models	14,791	746	428	15,965
	Upright Models	21,485	187	175	21,847
9.	20 & 21 cu. ft. (19.5 to 21.4)				
	Chest Models	18,217	635	55	18,907
	Upright Models	¶	¶	¶	¶
10.	22 cu. ft. (21.5 and over)				
	Chest Models	2,469	37	21	2,527
	Upright Models	¶7,733	¶3	¶	¶7,736
	Total Chest Models ...	160,492	5,655	3,665	169,812
	Total Upright Models ..	123,954	2,035	2,593	127,582
	Total All Models	283,446	7,690	6,258	297,394

*Chest models for items 1 & 2 combined because of possible disclosure of individual company data.

†Upright models for items 1 & 2 combined because of possible disclosure of individual company data.

‡Chest models for items 3 & 4 combined because of possible disclosure of individual company data.

§Upright models for items 6 & 7 combined because of possible disclosure of individual company data.

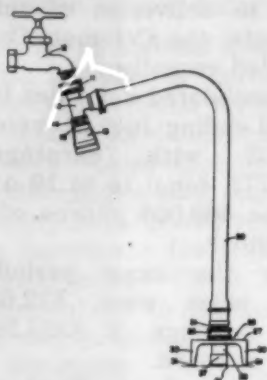
¶Upright models for items 9 & 10 combined because of possible disclosure of individual company data.

Participating companies: Admiral Corp.; Ben-Hur Mfg. Co.; Carrier Corp.; Crosley & Bendix Home Appliances Div.; Avco Mfg. Corp.; Deepfreeze Appliance Div.; Motor Products Corp.; Frigidaire Div.; General Motors Corp.; General Electric Co.; Gibson Refrigerator Co.; Hotpoint Co., Div. of General Electric Co.; International Harvester Co.; Kelvinator Div.; American Motors Corp.; Maytag Co.; The Norge Div.; Borg-Warner Corp.; Philco Corp.; Appliance Div.; Quicfrees, Inc.; Revco, Inc.; Seeger Refrigerator Co.; Servel, Inc.; Sub-Zero Freezer Co., Inc.; Victor Products Corp.; Westinghouse Electric Corp.; Wilson Refrigeration, Inc.

PATENTS

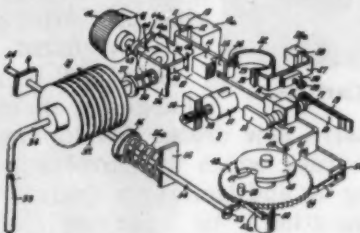
Week of June 21

2,710,964. DEFROSTING AND CLEANING UNIT. Carroll B. Grueter, Belmont, Mass. Application February 16, 1952, Serial No. 271,940. 1 Claim. (Cl. 15-314).



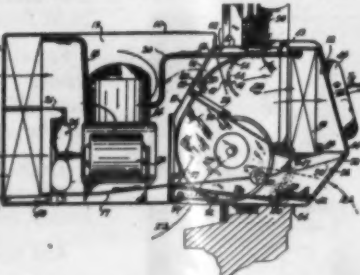
A defrosting and cleaning apparatus for refrigerated receptacles of the kind described, comprising a combined rigid scraping member and a cooperating suction element, said scraping member being formed as an inverted rectangular open-sided U-shaped member with tapered depending sides to constitute a pair of oppositely positioned scraping bottom edges spaced from each other, said member having a central opening thru the connecting part of the U, and a depending conduit supported therefrom and spaced centrally from the U-shaped sides, with the lowermost open end of the conduit held slightly above the plane of the said scraping sides, in combination with means to connect said conduit thru said central opening to said suction element, thereby allowing movement of the scraping element over the bottom of the receptacle while the suction element is in operation to simultaneously remove material in the receptacle loosened by the scraper.

2,711,079. AUTOMATIC REFRIGERATOR CONTROL. Charles S. Grimshaw, Harborside Township, Erie County, Pa., assignor to General Electric Co., a corporation of New York. Application November 18, 1952, Serial No. 321,153. 16 Claims. (Cl. 62-4).



1. In a refrigerator including a door, a refrigerating unit and defrosting means, automatic refrigerator controlling means comprising: an arm movable between a first and a second position, said arm effecting operation of said refrigerating unit when in said first position and energization of said defrosting means when in said second position, means biasing said arm toward said second position, temperature responsive means effective above a predetermined temperature for maintaining said arm in said first position, said temperature responsive means being effective below said predetermined temperature for permitting movement of said arm toward said second position, said arm including a stop, a rotatable cam including a recess, means responsive to refrigerator door openings for rotating said cam, and means responsive to refrigerating unit cycles for rotating said cam, said cam permitting movement of said arm to said second position when said recess is aligned with said stop, the periphery of said cam being otherwise engaged by said stop whereby said arm is positioned intermediate said first and second positions.

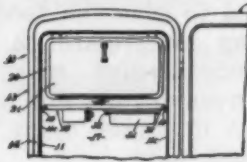
2,711,080. AIR CONDITIONING UNIT WITH OVERLOAD PROTECTION. Bernard W. Jewell, Wichita, Kans., assignor to The O. A. Sutton Corp., Inc., Wichita, Kans., a corporation of Kansas. Application October 29, 1951, Serial No. 253,724. 6 Claims. (Cl. 62-6).



1. A room air conditioning unit comprising a housing, an air conditioning system of the compressor, condenser, evaporator type mounted in said housing, a partition dividing said housing into an evaporating compartment and a condensing compartment and having an exhaust opening there-through, the evaporator of said system being located in said evaporating com-

partment and the compressor and condenser of said system being located in said condensing compartment, a blower in said evaporating compartment arranged to draw air thereinto and to cause the air to traverse the evaporator to be conditioned thereby, a damper for closing said exhaust opening, and means arranged in the path of the air approaching said evaporator for effecting opening of said damper in proportion to the amount by which the temperature of the air exceeds a certain minimum temperature comprising a thermosensitive member, means anchoring one end of said member in said housing, and means connecting the other end of said member to said damper.

2,711,081. AUTOMATICALLY OPERATED REFRIGERATOR DRIP-TRAY Baffle-DAMPER COMBINATION. Edward M. Gaul, Edwin M. Marks, and Walter H. Oldham, Evansville, Ind., assignors to International Harvester Co., a corporation of New Jersey. Application August 17, 1953, Serial No. 374,801. 7 Claims. (Cl. 62-2).

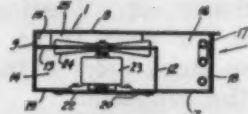


1. A refrigerator, comprising: an insulated chamber having top, side, rear, and bottom walls, and a vertical door defining at least a part of the front wall of said chamber; a partition slidably positioned in said chamber dividing it into an upper and a lower compartment; an evaporator cooling unit in said upper compartment; said chamber having a first air passage located near said door and a second air passage located near said rear wall to provide circulation of air between said upper and lower compartments; a damper movably mounted on said partition and positionable across said second passage for controlling the flow of air through said second passage; a thermostat carried by said partition and responsive to variations in temperature of the lower compartment; and motion amplifying means removably carried by said partition and operatively connecting said thermostat to said damper, whereby the position of the damper across the second air passage may rapidly be varied in accordance with small temperature variations in the lower compartment.

2,711,083. COIL HOUSING FOR A REFRIGERATED DISPLAY CASE. Vernon A. Schultz, San Lorenzo, Calif. Application May 20, 1952, Serial No. 288,791. 6 Claims. (Cl. 62-89.6).

1. A coil housing for refrigerated display case, comprising an elongated relatively flat box having top and bottom walls and a rear wall and being open in front, the bottom wall

being perforated near the rear wall of the box and substantially through the length thereof, a coil mounted in the front of the box and extending substantially through the length thereof, a horizontal partition projecting forwardly from the rear wall of the box

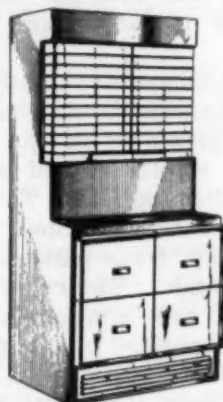


at a height approximately three-fourths of the height of the box to provide a minor space above the partition and a major space below the partition, a vertical partition rising from the bottom of the box and spaced from the rear wall by approximately two-thirds of the width of the box, the two partitions being joined at their free edges to form a chamber over the perforations, and a fan revolvable in the horizontal partition and adapted to draw air through the perforations into the chamber and to discharge air into the minor space over the horizontal partition to build up a pressure area from which the air is made to spread forward for substantial uniform distribution through the coil, the latter having a grid mounted forwardly thereof to aid in the uniform distribution of the air over the length of the coil.

(To Be Continued)

DESIGNS

174,966. REFRIGERATOR. Ray C. Sandin, Worthbrook, Ill., assignor to General Electric Co., a corporation of New York. Application October 27, 1954, Serial No. 32,836. Term of patent 14 years. (Cl. D67-3).



EDITOR'S NOTE: This Design Patent was omitted from the June 14 listing because of space limitations. We present it here to complete the listings for that week.

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words, 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words, 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other addresses by actual word count. Please send payment with order.

POSITIONS WANTED

ENGINEER WITH fourteen years' experience in commercial refrigeration, air conditioning and heating. Design, layout and estimating on packaged and central station equipment, with both retail and wholesale organizations. Dealer development, teaching, and sales experience also. Will consider relocating. GEO. E. TAYLOR, 3162 8th Ave. No., St. Petersburg 2, Fla.

PROJECT ENGINEER-SUPT. desires connection with growing team. Age 46, enough technical knowledge to design and produce small air cond. or equal product. No degree in engineering. Past includes finishing, machining, brazing, application of components (other than compressors), design, tooling and production as well as contract manufacturing of complete systems. BOX A5317, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

EXPERIENCE MAKES a difference—in the income of the air conditioning sales engineer who will fill this top position. The opening is in our newly-expanded Dallas office. Only men who are recognized to be of top ability and experience need contact us in regard to this position, which carries with it an income commensurate with such qualifications. We also have an opening for an experienced estimator. All inquiries in strictest confidence. THE STRAUS-FRANK CO., Personnel Dept., 4000 Leeland, Houston.

FIELD SERVICE engineer, with 10 years' or more commercial refrigeration experience (preferably food store), is desired by manufacturer recognized as among the leaders in food store refrigeration equipment field. Must be free to travel and willing to move, if necessary, at our expense. Promotions create need for additional men in eastern and southeastern states. Position provides salary, expenses, car allowance, vacation with pay, insurance, hospitalization. Here's a real opportunity for a man 30 to 45 years. Replies held strictly confidential. Send recent photo with full particulars of experience to BOX A5283, Air Conditioning & Refrigeration News.

NATIONAL SERVICE manager—Leading air conditioning manufacturer with headquarters in Midwest seeking qualified national service manager who can administer a national field service program. Unusual opportunity. Write BOX A5316, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

WANTED: ANY amount Frigidaire relays, YG2 type. Will pay 25¢ each. Ship in and will mail check. UNITED CONTROLS, 342 West 70th Street, New York 23, N. Y.

EQUIPMENT FOR SALE

REFRIGERATION VALUES: Attention servicemen; send for our catalog of refrigeration parts; savings up to 50%. WALTER W. STARR REFRIGERATION SUPPLIES, 2833 Lincoln Ave., Chicago 13, Illinois.

BUSINESS OPPORTUNITIES

OPPORTUNITY FOR partnership and sales engineering. Established in the North Jersey area for the last 20 years. Fully equipped with trucks and shop. Write BOX A5318, Air Conditioning & Refrigeration News.

Servicing Automobile Air Conditioners

BY C. DALE MERICLE

With this instalment we begin a discussion of another make of automobile air conditioner—the factory-installed system employed by Oldsmobile.

Normally service on this make would be handled by factory-authorized Oldsmobile dealerships, but it is hoped that the following information will help the experienced refrigeration serviceman make emergency repairs.

Previous makes covered in this series, which began in the June 13 issue, include A.R.A., Frigikar, Frigiquip, Novi, and Pivot.

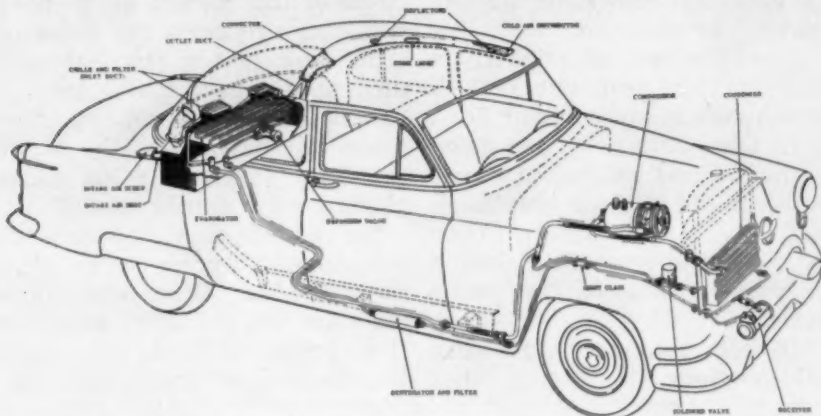


FIG. 1—Arrangement of major components of 1953 Oldsmobile air conditioner is shown here. Although some changes were made in 1954 models, arrangement was essentially the same as in 1953 models.

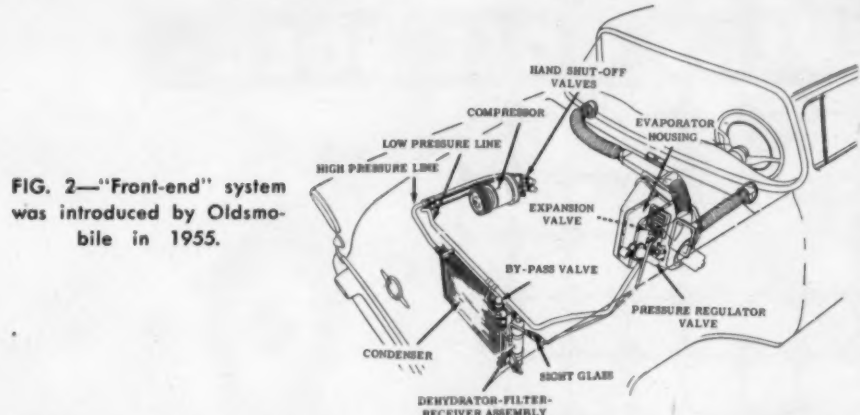


FIG. 2—'Front-end' system was introduced by Oldsmobile in 1955.

Oldsmobile (1)

Oldsmobile Div.
General Motors Corp.
Lansing 21, Mich.

DESCRIPTION

Air conditioning was first made available by Oldsmobile as factory-installed optional equipment at extra cost on 1953 models.

Used also on 1954 models, Oldsmobile's Frigidaire system located the evaporator-blower assembly in the trunk of the car, the condenser in front of the radiator, and the compressor in the engine compartment. (See Fig. 1.)

For 1955 models Oldsmobile changed to a "front-end" type of system with the evaporator-blower assembly located in the engine compartment on the fire-wall. (See Fig. 2.) With this system cool air is discharged into the car through vents in the instrument panel.

Numerous other changes over the previous system are also incorporated in the 1955 system, which was largely developed by Harrison Radiator Div. of General Motors.

Because there are so many differences between the two systems, they will be described separately, beginning with the 1953-'54 design.

Compressor (1953)

Compressor used in 1953 and 1954 Oldsmobile systems is a Frigidaire rotary-type unit. (See Fig. 3.)

Discharge service valve is at end of compressor opposite flywheel. Suction service valve is at the flywheel end of the compressor on the right side related

to viewing from driver's seat.

Separate gauge ports are provided in the Frigidaire design. Low side gauge port is at flywheel end, while the high side gauge port is on top of the compressor near the rear.

Beside the high side gauge port on the top of the unit is the pressure relief valve. This opens at 375 p.s.i.g. and closes at 350 p.s.i.g.

Also included in the Frigidaire compressor is an oil level test plug. This is found on the bottom of the unit at the end opposite the flywheel. The oil level test assembly includes a Schrader type relief valve.

Condenser (1953)

Condenser used on 1953 and 1954 models is located in front of the car radiator.

Inlet to condenser, which is at top on curb side, incorporates a Schrader type valve. Condenser outlet is at bottom of opposite.

Receiver tank is in front of,

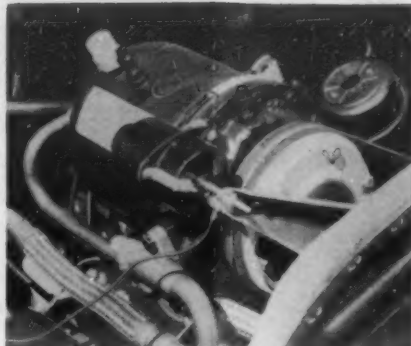


FIG. 3 shows compressor used in 1953 and 1954 Oldsmobile air conditioners. This is a 1954 installation equipped with solenoid-operated clutch.

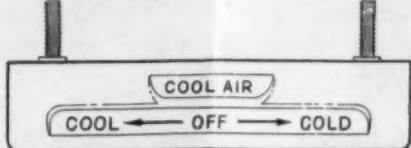


FIG. 4 is control panel for 1953 Oldsmobile systems.

and slightly below the condenser. It is equipped with a shut-off valve for servicing.

A check valve is installed in the line from the condenser just ahead of the receiver. This is part of the by-pass arrangement which will be described later. Purpose of the check valve is to prevent liquid refrigerant from backing into the by-pass and suction lines under a sudden surge when the by-pass solenoid valve is open.

Drier-filter is in the liquid line located approximately under the front door on the curb side.

A sight glass is provided in liquid line in engine compartment.

Evaporator Assembly (1953)

Evaporator-blower assembly used in 1953 and 1954 Oldsmobile air conditioners is located in the trunk against the forward wall.

This assembly includes the evaporator coil, thermostatic expansion valve, thermostat (for controlling by-pass solenoid), two blowers, outside air intakes, return air intakes, and air outlets.

Conditioned air is piped to the car interior through ducts from the evaporator assembly which extends along the roof of the car. Outlets with directional openings are provided on each side of the car for both the front and rear seats.

Return air is brought to the unit through two grilles in the parcel shelf.

Outside air is mixed with return air in the Oldsmobile system. Outside air is picked up in scoops on each side of the car just below the rear window. Manually operated shut-off valves are provided in the outside air ducts.

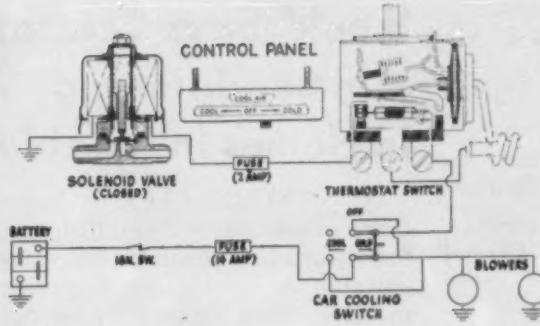


FIG. 5 is a schematic wiring diagram of 1953 Oldsmobile air conditioner, showing solenoid by-pass valve closed and car cooling switch in "cold" position.

Controls (1953)

Although the control arrangements for the 1953 and 1954 Oldsmobile air conditioning systems are basically the same, there are some differences.

In each case the air conditioner control panel is mounted beneath the car instrument panel and provides for full cooling, partial cooling, and no cooling.

In the 1953 design (see Fig. 4), when the control lever is set in the "off" position, no current is supplied to the blowers or the solenoid by-pass valve. With the solenoid by-pass valve de-energized, it will remain open, by-passing refrigerant from the condenser directly to the compressor intake. Compressor runs all the time the car engine is running, unless, of course, belts are removed.

When the control is set to

"cold" in 1953 models, current is supplied to blowers, thermostat, and solenoid by-pass, the latter being controlled by the thermostat. (See Fig. 5.)

Bulb of thermostat is in right return air duct. When it calls for cooling, the thermostat's contacts are closed, energizing and closing the solenoid by-pass valve, and thus delivering full refrigerating effect. When satisfied, the thermostat contacts break, de-energizing and opening the solenoid by-pass valve.

When set in the "cool" position, control lever of 1953 systems lets the blowers operate but cuts the thermostat and by-pass valve out of the electrical circuit. The open by-pass valve will let only a small amount of refrigerant flow to the coil.

(To Be Continued)

Government Contracts

ARMY

Corps of Engineers, U. S. Army, Office of the District Engineer, Washington District, First and Douglas Sts., N.W., Washington 25, D. C.
Additional AIR CONDITIONING for Central Dental Laboratory, Walter Reed Medical Center, Washington, D. C.—Job.—IFB ENG-49-080-56-6(5). Bid opening 30 Aug. 55.

Commanding Officer, Chicago Quartermaster Depot, 1819 West Pershing Rd., Chicago 9, Ill.
DISPENSER, DRINKING WATER, Mechanically cooled.—191 ea.—IFB 56-52(B).—Bid opening 14 Sept. 55.
REFRIGERATOR, MECHANICAL, Household, size 12.—95 ea.—IFB 56-46(B).—Bid opening 2 Sept. 55.

NAVY

Naval Supply Depot, Great Lakes, Ill., Purchase Dept.
REFRIGERATOR, 9 cubic foot, equal to Westinghouse Model DSG91 and Additional specifications.—75 ea.—Right hand door and 25 ea. left hand door.—IFB-128-3-56B.—Bid opening 6 Sept. 55.

Commandant of the Marine Corps, Washington, D. C., Code (CSG).
REPAIR PARTS for U. S. Thermo Refrigerators, Models MQ51, MQ51E, and ME10, manufactured by U. S. Thermo Control Co.—23 items.—IFB 54B.—Bid opening 20 Sept. 55.

GENERAL SERVICES ADMINISTRATION

Business Service Center, General Services Administration, Region III, Seventh and D Sts., S.W., Washington 25, D. C.
AIR CONDITIONER 60,000 B.t.u./hr. Cap.—1 ea.—AIR CONDITIONER, Window 8,000 B.t.u./hr. Cap.—18 ea.—COOLING TOWER, 5 ton cap.—1 ea.

General Services Administration, Business Service Center, Region I, Boston, Mass.
Partial Interim AIR CONDITIONING for Courts for U. S. Post Office and Courthouse, Hartford, Conn.—Job.—IFB BOS-56-50.—Bid Opening 9-2-55.

General Services Administration, Region IV, 50 Seventh St., N. E. Atlanta, Ga.
NEW AIR CONDITIONING for Court Room, Chattanooga, Tenn. Post Office and Court House.—Job.—IFB CR4-1083.—Bid opening 9-9-55.

General Services Administration, Business Service Center, Region 3, 7th and D Sts., S.W., Washington 25, D. C.
AIR CONDITIONING, U. S. Agriculture (South Bldg.), Washington, D. C.—Job.—IFB GS-R3-B-3607.—Bid opening 9-14-55.

U. S. POST OFFICE DEPARTMENT

Chief Procurement, Bureau of Facilities, Post Office Department, Washington, D. C.
AIR CONDITIONING UNITS, for casement type windows to be in accord with specs. listed and of capacities and quantities indicated. (1) 1 hp. capacity casement type window air conditioners.—16 units. (2) 3/4 hp. capacity casement type window air conditioners.—6 units.—IFB 553.—Bid Opening 9-6-55. Delivered to Postmaster, St. Louis, Mo.

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Ranco Replacement Reference No. 1544 shows you which control to use on which job... lists over 5,000 replacements (most complete line in the industry). Buy yours from your Ranco wholesaler now! (It is not available from the factory.)

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WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

For more information about products advertised on this page use Information Center, page 15.

Copper, Brass --

(Concluded from Page 1, Col. 5) to 40%. Coming on the heels of shutdown and vacations, the floods have turned a serious situation into a critical one.

"Distributor inventories will be drained to the vanishing point in a matter of weeks. The entire warehouse industry is being brought to a standstill. Even after resumption of operations, the floods' effect on brass production will be felt for a minimum of four to six months."

Bush Mfg. Co. in West Hartford, Conn., and Kramer-Trenton Co. in Trenton, N. J., both in the flood areas, reported that they had escaped damage. Both said production and shipping operations are right on schedule.

Torrington Mfg. Co. at hard-hit Torrington, Conn. was completely inundated, but company officials expected the air impeller manufacturing firm to be back in operation by Sept. 1.

After the 5½ ft. of water in the plant receded, the company reported, "everybody in the company immediately rolled up his sleeves and went to work. No effort or expense was spared to get back into operation."

Andrew Gargarin, president, thanked his suppliers and other undamaged manufacturing plants in the area for helping Torrington get back into production so quickly.

Westinghouse Electric Corp.'s plant at East Springfield, Mass. suffered no flood damage and production has not been affected. J. R. Weaver told the NEWS, "we believe our inventories will carry us until those suppliers that have been flooded are able to resume deliveries."

At Scranton, Pa., Murray Corp. of America suffered damage to its kitchen cabinet plant.



A. Emanuel II



D. M. Strathearn

Crosley and Bendix Up Strathearn, Emanuel

CINCINNATI—Two top-level executive promotions have been made at Crosley and Bendix Home Appliance Divs. of Avco.

President Chester G. Gifford announced that Donald M. Strathearn, formerly director of laundry engineering, has been named director of engineering for all of the company's products and Albert Emanuel II, laundry product manager, has been named general product manager.

Strathearn first joined Bendix in 1941 as designer. He left Bendix in 1948 to become chief engineer of the washer division of the Norge Div. of Borg-Warner and returned to Bendix a year later as chief engineer. He was named assistant director in 1952 and director in 1953. In 1950 Emanuel became a product engineer in the Crosley refrigerator plant. In 1951 he was made resident engineer for government products at Richmond. He was made laundry product engineer in 1954.

'Look' Says Central Air Conditioning In Homes Inevitable

NEW YORK CITY — Some form of central air conditioning for homes has become almost inevitable, reports *Look* magazine in "Are They Making Fresh Air Obsolete?" in the Aug. 23 issue.

In this four-page article, devoted to the "inside story" of air conditioning, *Look* points out that year-round, central air conditioning for the home is spearheading the advance of the industry, and sales of central air conditioning units are expected to double last year's total.

Pictures of various year-round air conditioning units and of the "add-on" cooling system and the independent central cooling unit illustrate the article.

Kudner Gets Frigidaire Appliance Advertising

DAYTON—Frigidaire Div. of General Motors has appointed Kudner Agency, Inc. to handle its major appliance advertising, it was announced recently by Mason Roberts, GM vice president and Frigidaire general manager.

Frigidaire's commercial air conditioning and refrigeration advertising will continue to be handled by Kircher, Helton & Collett, Dayton agency appointed to this phase in June of this year.

Admiral Distributors-Boston Appoints John R. Hodgins

CHICAGO—John R. Hodgins has been appointed general sales manager of Admiral Distributors-Boston Div., Admiral Corp. announced recently. Hodgins joined in 1949.

Mid-Summer Conditioner Boom Upsets 'July 4 or Liquidate' Theory Mitchell Declares

CHICAGO—"A study of 1955 August sales may contribute as much as 20% of the year's total. The fact is "that air conditioners will be sold in volume anytime the weather turns hot. It does not make any difference whether the hot spell comes early or late. Dealers need no longer worry about the mythical July 4 deadline."

Mitchell said the current condition of the market is excellent and that prospects for sales in 1956 look better than at any time in the past five years.

"The pipelines from manufacturer to distributor to dealer are clean," he said. "No one is glutted with unsold units."

He added that the end of panic-inspired price-cutting plus the fact that labor and materials are up, definitely indicates that prices of room air conditioners will be firmer in 1956.

Mitchell predicted that sales will continue high and that

YOU SHARE EVERY ROLL SOLD

Picture a service engineer walking into his wholesaler's for copper tubing. When he buys Wolverine, his purchase starts a chain of events—produces a benefit for every wholesaler, everywhere.

He puts the roll of tube in his truck—he takes it to the job—he doesn't destroy the carton, but uses it as a reel—he can't help seeing many times the selling phrase: **BUY FROM YOUR WHOLESALER!**

To jog him even further, Wolverine merchandises the slogan in ads, direct mail, catalogs and literature, trade shows and with sales promotion items. "Buy From Your Wholesaler" is repeated more than a million times each year! That's backing the wholesaler all the way and *Wolverine is the only one who does it!*

That's why we say that you share in every roll of Wolverine tube sold!

Wolverine backs you up in still other ways. The new Wolverine carton is a perfect example. Here's a merchandising concept that not only makes your work easier—it also helps you increase sales.

Because this is a round carton and rolls—like a hoop—it speeds up handling. Because it contains a flat roll of tube—it's thinner—allows more tubing to be stored in a given area. Because it is color coded and has reversed nomenclature, it makes content identification fast—from any angle.

And because it contains top quality Wolverine copper tube, and has many user advantages, this carton has customer appeal—starts sales climbing and keeps them that way.

To get your share of this increased business, stock Wolverine tube—tell your customers about the *Roll of Tube That Rolls*. Write, too, for the booklet "Wolverine Tube is Easy to Sell."

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Manufacturers of Quality-Controlled Tubing
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